



Biodiversity and Sectoral Responsibility in Swedish Forestry Policy 1988-1993

”Mellan Samhället och den Enskilde”

Biodiversitet och sektorsansvar i svensk skogspolitik 1988 - 1993



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Examensarbete nr 68

Institutionen för sydsvensk skogsvetenskap

Alnarp oktober 2005

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Omslag: Lavar och svampar på ett stående dött bokträd, Kullabergs Naturresevat,
Skåne län. Foto av författaren.

Cover: Lichens and fungi on a standing dead beech tree, Kullaberg Nature Reserve,
Skåne county. Photo by the author.

Skogen är en nationell tillgång som skall skötas så att den uthålligt ger en god avkastning samtidigt som den biologiska mångfalden behålls.

Vid skötseln skall hänsyn tas även till andra allmänna intressen.

The forest is a national resource. It shall be managed in such a way as to provide a valuable yield and at the same time preserve biodiversity.

Forest management shall also take into account other public interests.

§1 Skogsvårdslagen
(The Swedish Forestry Act)

* * * *

...Utskottet vill i detta sammanhang framhålla att en ansvarsfull ekonomisk politik alltid kommer att innebära vissa begränsningar i fråga om de ekonomiska resurser som kan avdelas för att bevara skyddsvärda naturområden m.m. Även på detta område är det således viktigt att åstadkomma en lämplig och ändamålsenlig fördelning av ansvaret mellan samhället och den enskilde. Ansvaret för att säkerställa den biologiska mångfalden och den genetiska variationen får enligt utskottets mening inte begränsas till att bli en fråga om statens ekonomiska resurser för intrångs- och inlösenersättningar m.m...

...In this connection, the committee wants to emphasize that a responsible economic policy always will mean certain limitations regarding the economic resources that can be committed to preserve natural areas worthy of protection, etc. Even in this field is it thus important to create a suitable and appropriate division of the responsibility between society and the individual. The responsibility to secure biological diversity and genetic variation may, according to the committee's opinion, not be limited to being a question of the state's economic resources for financial compensation, etc...

Jordbruksutskottet, JoU 1990/91:30
(The Riksdag's Agriculture Committee)

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PREFACE

As often happens, this thesis began with a different focus. Originally, I had expected to write about the history of Sweden's woodland key habitats program. Over the past dozen years, this project—conducted by the National Board of Forestry in conjunction with local authorities and the major forestry companies—has inventoried and mapped literally tens of thousands of small, ecologically valuable habitats across the nation's forestland (Nitare and Norén 1992, Skogsstyrelsen 1999a). All told, the program must constitute one of the world's largest efforts to survey these types of sites. With information about their locations and characteristics now accessible in an online database (Skogsstyrelsen 2005), the aim is to ensure their preservation while ordinary forestry activities occur in the surrounding landscape, and thereby maintain and enhance biological diversity in Swedish forests.

During my early research on the subject, several questions arose. Why had woodland key habitats become such a significant part of Swedish forestry policy during the 1990s? Why, despite their clear importance, did they not automatically have protected status under Swedish forestry and environmental laws? And, how were they related to the major revision of the Swedish Forestry Act that occurred in 1993? Finding the answers proved to be such an engrossing task that I realized the subject of my thesis had shifted. What had started as a history of the program itself had become an investigation into the social and political ideas that had made preservation of woodland key habitats possible in Sweden, and how legislation and public policies expressed these ideas during a critical period in the late 1980s and early 1990s.

In the end, the thesis involved a journey not just in the forest, but also through reports from Swedish legislative review committees, parliamentary propositions and debates, and archived files containing stacks of unpublished documents. Fundamentally, though, this is a story about the contrasting ideas so aptly captured in the quotes appearing in the epigraph. The Forestry Act now sets two ambitious and equal goals: high production and environmental protection. At the same time, as the Riksdag's Agriculture Committee recognized, there will never be sufficient financial resources to preserve every area worth protecting. Thus, the task for Swedish forestry and environmental policy is to find the right balance of responsibilities for nature conservation between society and the individual (*mellan samhället*

och den enskilde). The notion of sectoral responsibility described here—where all forest owners, loggers, and others must incorporate nature conservation within ordinary forestry operations—expresses this balance in the Swedish context.

Much of the discussion here regarding the development of Swedish forestry policy relies on official sources—materials prepared and issued by governmental authorities. Of course, policy ultimately encompasses much more than merely a set of documents. Just as important are the responses of the various constituencies whose actions a particular policy intends to address, and the opinions of the general public, on whose behalf the government (ideally) acts. This thesis reviews a limited sampling of responses from Swedish forestry organizations, but includes virtually no consideration of general public opinion. Nor have I attempted to explain the process through which personnel within the major governmental agencies involved, the National Board of Forestry and the Swedish Environmental Protection Agency, developed the positions reflected in the documents included here, or the factors that influenced their decisions.

Rather, I have attempted to explain the origins of the two major themes expressed in the current Swedish forestry policy, and outline in broad terms the political process that sought to reconcile the tension between them. As such, the thesis perhaps reflects my earlier training in political science as much as my recent forestry studies. There are, of course, other perspectives that undoubtedly could reveal equally important aspects of the process. In the simplest terms, this thesis tries to express what happened during this period, and—to a more limited extent—why Swedish forestry policy developed as it did. Further research remains to understand precisely how it happened, who played the most significant roles, and why the policy did not evolve in an entirely different direction.

To the best of my knowledge, most of the Swedish sources in this thesis have not appeared in English previously. The exceptions are the Forestry Act (Skogsstyrelsen 1999b, n.d.) and translations of the names of protected forestland habitats, which the National Board of Forestry generously provided (Skogsstyrelsen 2003b). Otherwise, my translations attempt to adhere as closely as possible to the original meanings and constructions. Thus some of the excerpts may not read as smoothly as they might with a more liberal interpretation. For assistance I have relied on Bokförlaget Rabén Prisma 1995. Håkansson 2000 has also been very helpful; Riksdagens Förvaltningskontor 1992 has offered useful information about the members of the Riksdag and Swedish governments.

A number of people deserve recognition for their assistance with this project. First and foremost, I want to thank the faculty of the Department of Forest Ecology and Management at the University of Wisconsin–Madison, and especially my advisor, Prof. Ray Guries, for their advice and assistance during my several years as a part-time graduate student in the department. I also offer special thanks to Profs. Mark Rickenbach and Volker Radeloff for their service on my degree committee. And I would be remiss if I did not also thank the Department of Scandinavian Studies, where I began to learn Swedish.

I could not have prepared this thesis without the Fulbright Scholarship that I received to study in Sweden. Thus I extend my deepest thanks to the people on both sides of the Atlantic who made that year an extremely enriching experience, including the helpful and efficient staff of the Fulbright office in Stockholm. Just as important were the faculty and staff of the Southern Swedish Forest Research Centre at the Swedish University of Agricultural Sciences campus in Alnarp, and in particular Prof. Eric Agestam, who graciously agreed to serve as my advisor there. Thanks to them for their valuable advice, strong coffee, and plentiful sweets.

A number of individuals at the National Board of Forestry and the Swedish Environmental Protection Agency were also generous with their time for interviews, and provided many essential documents. My thanks to Johan Nitare, Bo Wallin, and Stig Ohlsson. I am also grateful to both agencies for permission to reproduce copyrighted material. Thanks also to Bo Lundin at SEPA for his help via e-mail, and to the staff of the Swedish archives and libraries for their considerable assistance.

I also wish to note the generosity of the late Hans Ekelund, former director-general of the National Board of Forestry, whose lecture in Alnarp on Swedish forestry policy spurred my curiosity in the subject. I later enjoyed the rare privilege of a personal lesson in the subject from him during a visit to NBF in Jönköping, followed by an excursion through the beautiful Småland countryside, and his guided tour of the famous oak forests on the island of Visingsö. I regret that he did not have the chance to read this thesis, which undoubtedly would have benefited greatly from his many years of personal experience in, and broad knowledge of, Swedish forestry.

Prof. Frank Götmark of the University of Gothenburg agreed to review the text during his first week as a visiting professor in Madison. The text has benefited from his thoughts, and I thank him for his insights. My thanks also to Sibylle Herzer and Anders Blomquist, who have helped with my translations to Swedish. And my colleagues at Mapping Specialists Ltd. of Madison, where I have worked as a cartog-

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rapher and editor while pursuing my graduate studies, have generously allowed me the flexibility necessary to pursue my degree. This included a yearlong leave of absence while I studied overseas. Many thanks to them as well.

Above all, many thanks to my parents.

FÖRORD

Som det ofta går började examensarbetet med ett annat syfte. Ursprungligen hade jag förväntat att skriva historien om Sveriges nyckelbiotopprogram. Under de senaste åren har Skogsstyrelsen i samarbete med lokala myndigheter och de stora skogsbolagen inventerat och begränsat bokstavligen tiotusentals små ekologiskt värdefulla biotoper som finns på landets skogsmark (Nitare and Norén 1992, Skogsstyrelsen 1999a). I helhet måste programmet omfatta en bland världens största insatser för att kartlägga de här platserna. Information angående deras lägen och kännetecken är nu tillgänglig på webben (Skogsstyrelsen 2005) med målet att de ska skyddas medan vanliga skogsvårdsåtgärder utförs i närheten och därigenom ska biologisk mångfald i svenska skogar bibehållas och förstärkas.

Tidig i undersökningen dök upp några frågor. Varför hade nyckelbiotoper blivit sådan en viktig del i svensk skogspolitik under 1990-talet? Varför trots deras klara betydelse fick de inget automatiskt skydd i svensk skogs- och miljölagstiftning? Och vad var deras förhållande till den stora ändringen av skogsvårdslagen som ägde rum i 1993? Att hitta svaren visade sig att vara ett sådant omfattande uppdrag att jag insåg att examensarbetets subjekt hade ändrat. Det hade börjat som en historia om programmet själv men hade blivit en gransking av de sociala och politiska idéerna som hade gjort bevarande av nyckelbiotoper möjligt i Sverige, och hur idéerna uttrycktes i propositioner och miljöpolitik under ett ganska betydelsefullt tidsskede sent i 1980-talet och i början av 1990-talet.

Till slut innebar examensarbetet en resa inte bara i skogen men också genom officiella betänkanden, Riksdagstryck, och arkivlådor som innehöll många publicerade dokument. I grunden emellertid är den här en saga om de motsatta idéerna som väl fångas i citaten som finns på inskriptionen. Skogsvårdslagen fastställer nu två ambitiösa och jämställda mål, hög produktion och miljövård. Samtidigt och som Jordbruksutskottet ansåg kan det aldrig finnas tillräckliga ekonomiska resurser för att bevara varje skyddsvärt område. Således blir svensk skogs- och miljöpolitikens uppdrag att hitta den lämpliga avvägningen av naturvårdsansvaret mellan samhället och den enskilde. Sektorsansvarbegreppet som beskrivs här och som betyder att alla skogsägare, skogsarbetare, och andra behöver införa naturvård i vardagslandskap uttrycker avvägningen i den svenska kontexten.

En stor del av texten här angående den svenska skogspolitiksutvecklingen

har byggts på officiella källor—material som skrevs och gavs ut av myndigheter. Javisst omfattar politik mycket mer än bara en rad dokument. Just så viktiga är reaktionerna bland de åtskilliga intresseorganisationerna vems aktivitet en särskild politik försöker svara på, och synpunkterna bland den stora allmänheten som staten (i det bästa fallet) är ombud för. Examensarbetet granskar ett begränsat urval svar från svenska skogsorganisationer men omfattar nästan ingenting som handlar om uppfattningar bland det allmänna. Jag har inte heller förklarat processen hos den personal inom de stora myndigheterna som omfattas i texten, Skogsstyrelsen och Naturvårdsverket, som utarbetade synpunkterna i dokumenten som granskas här, eller faktorerna som påverkade deras åsikter.

Istället har jag försökt berätta om uppkomsten till de två stora ämnena i den nuvarande svenska skogspolitiken och skissera i stora drag den politiska processen som eftersträvade att minska spänningen mellan dem. Som sådan återspeglar kanske examensarbetet min tidigare undervisning i statsvetenskap lika så mycket som min färskaste skogsundervisning. Det finns ju andra perspektiv som utan tvivel kunde avslöja synvinklar av motsvarande betydelse för processen. Enkelt beskrivet så försöker examensarbetet förklara vad det är som hände under perioden och i en mer begränsad utsträckning varför svensk skogspolitik utvecklades som den gjorde. Yttligare forskning återstår för att förstå precis hur det ägde rum, vilka de viktigaste personerna var, och varför politiken inte utvecklades åt ett helt annat håll.

Såvitt jag vet har nästan inga av de svenska källorna som använts i examensarbetet tidigare kommit ut i engelsk översättning. Undantagen är Skogsvårdslagen (Skogsstyrelsen 1999b, n.d.) och de engelska namnen till skyddade skogsbiotoper som Skogsstyrelsen tillhandahöll generöst (Skogsstyrelsen 2003b). Annars försöker mina översättningar upprätthålla de ursprungliga innebörderna och konstruktionerna. Följaktligen blir läsbarheten kanske inte så smidig som den skulle kunna vara med en friare översättning. För hjälp med översättningen har jag konsulterat Bokförlaget Rabén Prisma 1995. Håkansson 2000 har också varit mycket hjälpsam, och Riksdagens Förvaltningskontor 1992 har erbjudit nyttig information om Riksdagsledamöterna och svenska regeringar.

Ett antal personer förtjänar erkännande för deras hjälp med projektet. Först och främst vill jag tacka fakulteten vid Institutionen för skogsekologi och skogs-skötsel vid Wisconsin's Universitetet i Madison, och särskilt min rådgivare Prof. Ray Guries, för deras råd och hjälp under mina år som deltidsstudent vid institutionen. Jag riktar också särskilt tack till Prof. Mark Rickenbach och Prof. Volker

Radeloff som har tjänstgjort som handledare under mitt examensarbete. Och det skulle vara fel om jag inte tackade universitetets Institution för skandinavisk vetenskap där jag började lära mig svenska.

Jag kunde inte ha skrivit det här examensarbetet utan Fulbrightstipendiet som jag fick för att studera i Sverige. Följaktligen tackar jag människorna på båda sidor Atlanten som gjorde att året var så berikande. Det omfattar i synnerhet de hjälpsamma och duktiga personerna på Fulbrightkontoret i Stockholm. Lika viktiga var fakulteten och personalen vid Institutionen för sydsvensk skogsvetenskap vid Sveriges Lantbruksuniversitet i Alnarp, och särskilt Prof. Eric Agestam som var vänlig att ställa upp som min rådgivare där. Ett stort tack till alla för deras ovärderliga råd, starka kaffe, och ymniga godis.

Ett antal enskilda personer vid Skogsstyrelsen och Naturvårdsverket var generösa med deras tid för att intervjuas, och ställde många viktiga dokument till förfogande. Jag tackar Johan Nitare, Bo Wallin, och Stig Ohlsson. Jag tackar båda myndigheterna också för lov att återge upphovsrättsskyddat material. Tack också till Bo Lundin vid Naturvårdsverket som har hjälpt mig via epost, och personalen vid de svenska arkiven och biblioteken för deras betydliga hjälp.

Jag önskar också lägga märke till generositet av den avlidne Hans Ekelund, före detta generaldirektör vid Skogsstyrelsen, vems föreläsning i Alnarp över svensk skogspolitik drev på min nyfikenhet i ämnet. Senare njöt jag av den enastående förmånen att få en personlig läxa i ämnet från honom under ett besök till Skogsstyrelsen i Jönköping, och efteråt en utflykt igenom det vackra småländska landskapet och hans guidade rundtur ibland de välkända ekskogarna på Visingsö. Jag är ledsen för att han inte fick chansen att läsa examensarbetet. Utan tvivel skulle texten ha nyttat i hög grad av hans mångåriga erfarenhet i och omfattande förståelse för svenskt skogsbruk.

Prof. Frank Götmark vid Göteborgs Universitet läste texten under sin första vecka som en gästprofessor i Madison. Texten har profiterat av hans synpunkter och jag tackar honom. Jag tackar också Sibylle Herzer och Anders Blomquist som har hjälpt med mina översättningar till svenska. Och mina arbetskamrater vid Mapping Specialists Ltd. i Madison där jag har jobbat som kartograf och redaktör under mina år som forskningsstudent har varit otroligt tillmötesgående då det gällde mina lektioner osv. Detta inkluderade ett års tjänstledighet när jag läste utomlands. Jag är mycket tacksam mot dem.

Allra mest tackar jag mina föräldrar.

ABSTRACT

In 1993 the Swedish parliament substantially revised the nation's Forestry Act, deregulating forestry operations and establishing an environmental goal for national forestry policy equal to the previous goal of high production, long the leading aim for Swedish forestry. These actions resulted from an extended process during the late 1980s and early 1990s, through which Swedish forestry developed its sectoral responsibilities for nature conservation measures, in particular the protection of biological diversity within the context of timber and pulp production. This thesis examines the legislative history behind these changes, including the ideas and concepts drawn from comprehensive environmental legislation approved during the same period. Another legacy of the period is the inclusion of specific legal protection for small forest and agricultural habitats in the Nature Conservancy Act. This paper also explores the impact of this measure on Swedish forestry, specifically the efforts of the national forestry agency to retain authority to administer the habitat protection law on forestland, the majority of Sweden's land cover.

Three major themes emerge from the analysis. First, the parliament and industry appeared to support increased nature conservation and biological diversity within production forestry in large part as a way to maintain the health of the forest, and thus the industry. Fundamentally, this position supported the responsible use of natural resources, and not simply protection from the effects of human influence. Second, Sweden's long history of forest use significantly shaped the discussion and outcomes. The policy now highlights the importance of nature conservation measures in the context of ordinary forestry activities, mainly because these comprise by far the largest share of forest use. National parks and forest reserves make up a relatively small portion of Swedish forestland. Third, conflicts between existing institutional actors yielded trade-offs and compromises during legislative development and implementation. The largest of these was an implicit agreement with the nation's forest owners described as "freedom under responsibility." In exchange for broader responsibility to meet the new and stronger environmental goal, forest owners received greater latitude to manage their forests without the regulatory oversight that many had found objectionable. Overall, the result is a seemingly simple system that in fact anticipates a sophisticated set of shared understandings for long-term success.

The thesis incorporates translations of relevant excerpts from original Swedish materials, including legislative proposals, unpublished government documents, and position statements from forestry and environmental organizations. A short appendix provides an outline of the Swedish legislative process as a guide to the documentation.

Keywords: biodiversity, conservation, environmentalism, forest policy, Sweden.

SAMMANFATTNING

I 1993 fattade Riksdagen beslut om en ny skogsvårdslag som innebar en kraftig dereglering vad gäller skogliga åtgärder, och stadgade ett nytt miljömål, jämförbart med det tidigare produktionsmålet vilket i många år var huvudmålet i svenskt skogsbruk. Riksdagens avgörande resulterade ur en lång rad handlingar i slutet på 1980-talet och i början av 1990-talet. Under den tiden utvecklade svenskt skogsbruk sitt sektorsansvar för naturvård inklusive biologisk mångfald i virkes- och massaproduktion. Examensarbetet granskar lagstiftningshistorien som ligger bakom ändringarna, särskilt idéerna och begreppen som växte fram ur omfattande miljölagstiftning som godkändes under samma tidsperiod. Ett annat arv från den här tiden är biotopskyddet som infördes i naturvårdslagen. Examensarbetet undersöker också biotopskyddets inflytande på svenskt skogsbruk, i synnerhet skogsvårdsorganisationens ansträngningar för att behålla befogenheten att administrera biotopskyddet på skogsmark, den största delen av Sveriges landyta.

Tre huvudämnen framgår utifrån analysen. För det första verkade Riksdagen och skogsindustrin stödja utvidgad naturvård och biologisk mångfald i skogsbruk för det mesta som ett sätt för att upprätthålla skogens hälsa, och således industrin. I själva verket tillstyrkte den här ståndpunkten ansvarigt bruk av naturresurser och inte bara skydd mot effekterna av människans påverkan. För det andra formades diskussionen och resultaten av Sveriges långa skogsbrukshistoria. Politiken nu lägger tonvikten på viktighet av naturvårdsåtgärder i vardagslandskapet eftersom det utgör den största delen av skogens utnyttjande. Nationalparker och naturreservat omfattar en begränsad areal av svensk skogsmark. För det tredje skapade konflikter mellan påtryckningsgrupper och myndigheter kompromisser under lagstiftnings utveckling och utförande. Den största var en underförstådd överenskommelse med landets skogsägare som beskrevs som "frihet under ansvar." I utbyte mot ett utvidgat ansvar att genomföra det nya och starkare miljömålet fick skogsägare bredare utrymme för att förvalta deras skogar utan detaljregleringen som många tyckte illa om. Resultatet är till synes ett enkelt system som faktiskt förväntar omsesidiga förståelser för att bli framgångsrikt i längden.

Texten innehåller—i engelsk översättning—delar av de ursprungliga svenska dokumenten som hör till saken, inklusive propositioner och andra officiella trycksaker, opublicerade myndighetsdokument, och avsiktsförklaringar som utfärdades av skogliga grupper och naturvårdsorganisationer. En kort bilaga erbjuder en översikt av det svenska lagstiftningsförloppet som en vägvisare till dokumentationen.

Nyckelord: biologisk mångfald, miljörörelsen, naturvård, skogspolitik, Sverige

I. Introduction

“Forestry’s total effect on the forest as a biological environment can be summarized with a single word: impoverishment. A many-faceted, variable landscape with a blend of many different nature types is being replaced in altogether wider areas by a unified production landscape with single-aged stands of pine and spruce” (Olsson 1985a, 79). Thus declared the Swedish Society for Nature Conservation (Svenska Naturskyddsföreningen, abbreviated here as SSNC) in the second edition of its comprehensive evaluation of Swedish forestry, *Levande Skog*, issued in 1985. “Nature types which have existed in our land for thousands of years are disappearing. Species that depend on the threatened nature types have their living conditions worsened or destroyed” (Olsson 1985a, 79). The book, a wide ranging review of Swedish forest history and the environmental effects of silvicultural methods, lay the major blame for these alarming changes squarely with modern forestry practices. “A major cause of this development is the large-scale and uniform quality of today’s forestry. Another important factor is that forestry is leaving fewer and fewer areas unaffected...The access to refuges for species that cannot live in production forests is diminishing quickly” (Olsson 1985a, 79). The book recognized that most Swedish forestland would, and should, remain dedicated to wood production. “The largest part of the forest and the forestland in Sweden shall be managed and used to produce timber. That is an obvious starting point also for the nature conservation discussion about the forest and forestry” (Olsson 1985a, 16). However, by weaving together information from a range of sources, including scientific data, reports prepared by government investigatory commissions, and material from the National Board of Forestry (Skogsstyrelsen, here abbreviated NBF), this critical investigation of forestry from the viewpoint of nature conservation argued forcefully for a change in government forestry policy.

Our existing forestry policy is shortsighted and single-minded. It aims first and foremost to support the pulp factories with raw materials and leaves less space for adjustments to and consideration of the forest’s other values. The forestry policy’s main aim must be to protect the forest as a multi-faceted natural resource. The forest shall be used without being consumed. Wood production shall not by definition stand above other ways to use the forest. (Olsson 1985a, 143-144)

Naturally, the book provoked strong reactions from Swedish foresters. The Swedish Forestry Association’s monthly magazine *Skogen* published a sharp rebuttal

under the headline, “The Swedish Society for Nature Conservation presents misleading information” (Häggström 1985). The reviewer claimed that the author of *Levande Skog* had “a frightening lack of knowledge in ecology” (Häggström 1985, 10) and preconceived, negative notions about Swedish forestry that resulted in biased interpretations of the scientific data and other sources. “Publishing such a book damages SSNC’s reputation. It misleads the general public and increases the opposition between representatives for nature protection and production forestry. Instead, truthful criticism and cooperation is necessary,” the reviewer concluded (Häggström 1985, 10-11). With even stronger language, the magazine’s lead editorial dismissed the book with the headline “*Levande Skog* – a stillborn contribution to the forestry debate” (Lindevall 1985). “Production forestry is depicted here as a tangle of problems. Greed, large-scale methods, and a sovereign dismissal for nature and its laws are creating something of a natural catastrophe, that is the conclusion of the book,” the editorial ominously noted. Worse, *Levande Skog* had failed to recognize how Swedish forestry had been forced to rationalize to maintain profitability against strong international competition, and had not seen that this development had eased in recent years. “The distorted picture must be corrected. The general public and politicians must see clearly that we operate an entirely successful activity and that we can manage and increase the forest as a natural resource with consideration for all interests” (Lindevall 1985, 6).

In a reply published three months later, the author of *Levande Skog* claimed that Swedish forestry did not want to acknowledge troublesome research results that explain “why today’s forestry policy in several ways threatens to impoverish the forest as a biological environment” (Olsson 1985b, 44). “It is typical that this description of the problem—which is a principal point in the book—is not mentioned with a single word in either the editorial or the review. If one refuses to recognize the existence of the problems it is easier to dismiss criticism as malicious and ignorant” (Olsson 1985b, 44). Yet the strongest response came not from a traditional advocate for Swedish nature conservation, but from the head of the institution responsible for implementing the same forestry law that *Levande Skog* had so strongly criticized, NBF. Under the headline “Change attitude!” Björn Hägglund admonished *Skogen*’s editor for publishing “a sweeping and oversimplified criticism” that “in its attitude and disposition presumably only preserves the general opinion that production forestry’s representatives are not interested in a serious public debate” (Hägglund 1985, 42). In Hägglund’s view, *Levande Skog* simply asked

the industry to take seriously the idea of balancing wood production and nature conservation. He thought this was a reasonable request, since “there is a good deal one can do for nature conservation which actually demands more consideration than money” (Hägglund 1985, 42). But he did not address his remarks just to the magazine’s editor. He also offered this challenge to *Skogen*’s readers specifically and to Swedish forestry in general:

We want the representatives for nature conservation to listen to production forestry. We want people to understand production forestry’s large economic importance, and respect the often idealistic powers that drive forestry forward. We want people to realize that a renewable production of necessary raw materials in many ways is a positive thing in Swedish society. We clearly demand that they listen to us. But then we must in fact listen to them. (Hägglund 1985, 42)

This thesis concerns that challenge. During the late 1980s and early 1990s, a significant environmental debate in Sweden culminated in a major revision of national environmental legislation, and the development of environmental quality policy for discrete economic sectors, including forestry.* The period also yielded an extensive revision of the Swedish Forestry Act, which governs silvicultural and related forestry activities on all Swedish forestland, over half of the nation’s total land area (Skogsstyrelsen 2004, 52). The new Forestry Act, passed by the Riksdag in 1993, significantly deregulated the forestry sector while simultaneously abolishing a range of forestry subsidies. The legislation also declared that environmental protection would henceforth be as important as wood production. This was a landmark change, since Swedish forestry policy had strongly encouraged production of timber and pulp as a key part of the nation’s industrial base. In addition, a new provision of the Nature Conservancy Act, also enacted during this period, aimed to protect the types of small, ecologically-sensitive habitats—in forests and on farmland across the country—which had become the focus of the environmental debate in books such as *Levande Skog* and others.

With the new forestry policy, described as “freedom under responsibility” (Ingebros and Norén n.d., 4), Swedish forest owners have received greater freedom to manage their land as they wish. In exchange, they now bear greater responsibility to achieve both of the policy goals, high production and nature conservation. As a

*Later in the decade, the Riksdag approved 15 concrete environmental quality goals, aiming to solve major problems within a generation. Subsequent legislation also created detailed interim goals with timelines and measurable objectives (Prop. 1997/98:145, Prop. 2000/01:130; see also Edvardsson 2004).

result of the change, and the enactment of the habitat protection legislation, Swedish forestry policy now expects larger total set-asides by individual forest owners, and has significantly increased government purchases of land and conservation easements for nature reserves, in comparison to the previous policy. Yet as the environmental debate during this period began to impact Swedish forestry, the division of responsibilities for these new expectations remained unclear. How much land could the government reasonably expect an individual forest owner to exempt from harvesting? How much money would more nature reserves cost? Who should bear the cost? And which agency would be in charge? From the major revision of the environmental policy in 1988 through passage of the new Forestry Act in 1993, these questions were among the most significant aspects of the environmental debate within Swedish forestry.

This paper has two purposes. The first is to show how Swedish forestry attempted to respond to those concerns through legislative change in the context of major shifts in social attitudes. The revision of national forestry policy of course represents not merely a technical adjustment in public administration, but also embodies new perspectives in the values of, and expectations for, forests and forestry. Swedish forestry indeed proved itself willing to listen to the advocates for greater nature conservation within the production landscape—willing, in other words, to change its attitude, as Björn Hägglund had urged. This paper attempts to provide an overview of the legislative and administrative means through which this occurred, and during one particularly important period when the social and legal climate for Swedish forestry underwent the largest transformation seen in many decades, 1988 through 1993.

The second, and related, purpose is to explain how the ideas of the time became embodied within particular political structures, that is, how rhetoric became reality. This process involved not only an argument about making Swedish forestry more environmentally conscious, and the appropriate means to accomplish this, but also consideration of just how far the government could limit property rights as a consequence. The outcome of that additional discussion rested just as much on the existing institutional background, and the changing political climate, as it did on broader principles of fiscal equity or social responsibility. To demonstrate how all of this occurred, this thesis offers in translation essential portions of the original Swedish documents—including legislative proposals, unpublished government documents, position statements, and parliamentary debates—so that foreign foresters,

students, and others interested in the formation of natural resource policy can understand what happened in Sweden during this period, and why.

With the exception of the following two sections, this paper presents events and issues in chronological order. The next section offers a brief review of Swedish forestry and forest policy, followed by an overview of the growth and change in Swedish environmental attitudes during roughly the corresponding period. Thereafter, the material appears sequentially, beginning with the Swedish government's major environmental legislation of 1988, and the formal review of the Nature Conservancy Act that occurred immediately after passage of that bill. This review, which produced a final report in early 1990, proposed to protect small, sensitive forest and agricultural habitats. Later the same year, the government formally initiated a comprehensive review of the Forestry Act, appointing a forestry policy review committee to thoroughly examine the law. (These committees are a traditional part of the Swedish legislative process; see the Appendix for more detail.) By 1991, the habitat protection legislation became part of another major environmental bill, which clarified and reinforced important concepts from the previous legislation, one of which was a general endorsement of the Organisation for Economic Cooperation and Development's polluter-pays principle. Whether this principle could realistically find application within the forestry sector, however, then became the subject of an internal agency review late in 1991, with the conclusion that existing legal arrangements made the principle difficult to implement. While the forestry policy review committee continued its deliberations into 1992, execution of the small habitat protection legislation became an interagency issue as well. Finally, by autumn of 1992 the forestry policy review committee's final report called for substantial deregulation and adoption of a new environmental goal for Swedish forestry, among a range of other proposals. In early 1993, the Swedish parliament (the Riksdag) approved these changes, marking a major shift in national forestry policy.

II. A Short History of Swedish Forestry

Over the past several hundred years, most Swedish forests were fundamentally transformed to satisfy domestic and, later, international demands for fiber and fuel. Early extraction from southern Swedish forests centered on potash, fuelwood, and charcoal. The forestland there eventually gave way to cropland and pasture, shrinking in total landcover over time. Forests in middle Sweden fueled hundreds of

iron, copper, and silver mines and furnaces with wood and charcoal from the middle of the 17th century until about 1950 (Nilsson 1990, 18-21). In the north, sawmills flourished beginning in the mid-1800s, driven by foreign lumber demand, the introduction of limited liability ownership in Sweden (which increased capitalization), and improved access to inexpensive timber, often harvested by dimension felling. Development of pulp factories in the region, early in the 20th century, later made smaller trees valuable as well (Nilsson 1990, 22-23). The effects of this intensive human use on forest structure and composition have been significant. For example, the sharp decline in the percentage of northern forest greater than 150 years old, plus the change from two- or multi-storied stands to even-aged and single-storied stands, meant “the previous fire-influenced, old-growth-dominated forest landscape was transformed by human activities into a regulated production forest in the course of one century...The result of this process is the complete removal of the old-growth forest and its characteristic structures of older large trees, dead trees, and fallen logs” (Östlund, Zackrisson, and Axelsson 1997, 1203). In the south, heavier cultivation of just a handful of tree species, fewer large and old broadleaf trees, and modern silviculture—among other factors—have produced similar results (Nilsson 1997).

Sweden has regulated forest use for centuries, though in different ways. Prior to 1900, legislation mainly allocated land between the two most significant uses in a rural, agrarian society—crop production and wood harvested for fuel, construction, charcoal, and tar (Eliasson 1997). The Forestry Act of 1903 represented a major departure. Rather than control land allocation, for the first time the state required individual forest owners to ensure regrowth of the forest after harvest. The legislation also created a County Forestry Board (Skogsvårdsstyrelse) in every county to administer the law, financed by a forest preservation duty (skogsvårdsavgift) initially assessed on timber and pulpwood (Ekelund and Hamilton 2001). Proposals for compulsory replanting had been debated as early as the 1850s, and had nearly reached parliamentary consideration in 1874. But liberal political ideology, with its central emphasis on individual freedom, delayed consideration until influential Swedes—who feared wood shortages caused by the expanding forestry industry—began to view forests as a national interest, worth protecting through state action (Enander 2001). Yet Swedish liberalism retained its influence even within the new legislation. From the start, the County Forestry Boards were not typical regulatory agencies. If a Board could not convince a landowner to willingly seed or plant after

harvest, only a court and not the County Forestry Board itself (except as a temporary measure) could order the landowner to act, or even prevent a harvest, but then only as a last resort. The legislation anticipated that the Boards would aid local forest owners primarily as problem-solvers, by offering extensive knowledge about forest management (Ekelund and Hamilton 2001). “The representatives of the county forestry boards were unanimously in favor of restricting application of the law. They stressed that the legal machinery should be delayed as long as possible and be set in motion after all attempts at persuasion had proven useless” (Stjernquist 1973, 82).

A broad revision of the Forestry Act in 1923 made permanent the emergency, World War I-era legislation that had regulated harvests of young forests and protected older forests against land speculation. Most significantly, the 1923 legislation declared that all forestland should be used for forestry, reflecting the Riksdag’s view that production should not depend entirely on the choices of individual owners. This was the first explicit expression of a national interest in Swedish private forestry (Ekelund and Hamilton 2001, 38-39). These revisions occurred during the most extensive use of selection cutting and natural regeneration that Swedish forestry has ever experienced, in part due to the heavy influence of German foresters. The 1930s economic depression offered further encouragement, since landowners believed that by harvesting only in small areas the remaining trees would support natural regeneration, thus sparing the regeneration costs. “The general attitude even among experts was that natural regrowth was far superior to forest planting both from a biological and financial point of view” (Stjernquist 1973, 94). Selection cutting and similar methods which relied on natural regeneration dominated Swedish forestry through World War II, even on state forestland, “unfortunately often with bad results, based on inappropriate expectations for the procedure and lack of control and follow-up of the often small and scattered regeneration areas” (Ekelund and Hamilton 2001, 45). By the 1940s, forestland amounting to hundreds of thousands of hectares had either been bare for years, or held forests of such low value—with marginal stocking, low growth, and poor wood quality—that the government again reviewed forest conditions across the country (Ekelund and Hamilton 2001, 53).

Creation of NBF in 1941 to improve administration of the forestry law was a precursor to passage of the 1948 Forestry Act, a major expansion of government influence over private forestry in Sweden. This served as the foundation for Swedish forestry policy until the end of the 1970s. The Riksdag hoped to foster larger and more valuable harvests, and distribute fellings more evenly across time. The new

law required landowners to maximize economic gains, sharpened the regeneration duty, and rationed harvests for larger properties within forest districts, to maintain employment levels and ensure a steady industrial supply. The law also required revitalization of poor-quality forests (Ekelund and Hamilton 2001, 55; Stjernquist 1973, 97-104). Overall, in fewer than 50 years Swedish forestry policy had moved from allowing private forest owners nearly complete freedom to manage their forestland as they wished, to requiring owners to act according to national goals. Swedish forestry legislation had “come to a goal-setting, which aimed at improved and sustainable forest production. The demands on the forest owners were sharpened, but at the same time those obligations were limited by the law’s requirement to achieve profitable production using the silvicultural methods of the period” (Ericsson 2001, 159).

And as in other industrialized nations, Swedish forestry saw dramatic technical and social changes during the period. Harvesting techniques advanced tremendously, from reliance on manual saws, horses, and water transport to chainsaws, harvesting machines, and timber trucks. Post-war land consolidations weakened the links between forestry and agriculture. Consequently, many rural counties—particularly in the north—lost population, unable to compete against cities offering more jobs with higher wages. Abandoned farmland reverted naturally to forest, or most often was planted, mainly with Scots pine (*Pinus sylvestris* L.) and Norway spruce (*Picea abies* [L.] Karst.) (Stjernquist 1973, 191-199; 1992, 35-37). After a boom during the Korean War, profitability remained low until the early 1970s (Ekelund and Hamilton 2001, 66). Nevertheless, an expanding economy increased overall harvests, though forest growth stagnated, likely due to heavy cutting earlier in the century (Hansing and Wibe 1992, 159). Consequently, “forestry saw the threat of a future lack of timber supply and questioned its possibilities to be able to supply a continuously expanding forest products industry with raw material in the long term” (Bondeson 2002, 33).

These worries later proved unfounded. In fact, the standing volume in Swedish forests increased steadily throughout most of the 20th century (Skogsstyrelsen 2004, 49). Nonetheless, the concerns had a direct impact on national forestry policy. Adjustments to the 1948 Forestry Act in 1974 introduced a reporting system for harvests larger than one-half hectare, mainly to control application of the forestry law’s harvest rationing provisions. General consideration for nature conservation also appeared in the Forestry Act for the first time, motivated mainly by recreational

and scenery interests. Only a single, explicitly ecological idea appeared in connection with the change, a desire to avoid the harvest of trees inhabited by birds and mammals (Ekelund and Hamilton 2001, 57-58). Despite this,

From earlier having been a support for agriculture, the forest's importance as raw material to industry stood all the plainer. The forestry industry's need for more raw material, and the labor unions' desire to secure employment for their members, created a commonality of interests which became a very important factor within forestry policy...The forestry policy during this period almost entirely aimed to increase the production of timber so the harvests could be raised. (Bondeson 2002, 30)

The Forestry Act of 1979 extended and strengthened this policy. The law's opening paragraph set the tone: "Forestland with its forest shall through suitable use of the land's wood-producing capacity be managed so that it gives a high and valuable wood yield. The management shall take into consideration nature conservation and other public interests" (Skogsvårdslag 1979:429). The legislation introduced measures to expand wood production in order to guarantee high harvest levels, consistent with the notion that national forestry policy should ensure a large and steady wood supply for industrial use. The County Forestry Boards could order harvesting and reforestation of "over-aged" forests, and require precommercial thinning to improve the production of valuable wood. The new law also retained the pre-harvest reporting requirement, and limited harvesting methods with language that, in essence, established even-age, regulated forestry as the only permissible type.* The general nature protection provision first introduced in 1974 became the revised act's §21. This allowed the government and its agencies to "issue orders about the consideration that shall be taken for nature conservation and conservation of the cultural environment within forest management, such as regarding the size and position of clearcuts, stand regeneration, retention of tree groups, and planning of forest roads." These orders could not, however, "be so extensive as to severely handicap current land use" (Skogsvårdslag 1979:429, §21).

*According to the text of that law (Skogsvårdslag 1979:429, §12), "Harvest on forestland may not happen in another way than through 1. Precommercial or commercial thinning that promotes the forest's development. 2. Final harvest that is suitable for establishment of new forest." Combined with new rules instituting minimum allowable harvest ages and rationing final harvests on larger parcels, the intent was to avoid the hard thinnings that had occurred through the 1960s and early 1970s, with substantial production losses as a consequence (Ekelund and Hamilton 2001, 78).

To support increased pulp and timber production, NBF instituted a nationwide General Forest Inventory on all private, nonindustrial forestland. One of the most significant long-term impacts of the 1979 Forestry Act, and supplementary legislation passed in the early 1980s, involved the extensive system of subsidies for silvicultural and related forestry activities that the legislation authorized (Table 1). State funds supported road building, ditching, the General Forest Inventory, and a program to restore “low-producing” forests via harvesting and replanting. Restoration of the under-productive forests consumed the largest share of the subsidies, financed mainly with the forest preservation duty, which by this point had become a mill levy on all forestland (Ekelund and Hamilton 2001, 75-82, 243).

III. The Growth of Swedish Nature Conservation

Nature conservation as an organized social movement in Sweden originated during roughly the same period that gave birth to modern Swedish forestry legislation, yet represented a divergent evolution in perspectives regarding the value of the nation’s natural resources. Aided by the Scandinavian right of public access to private land, a custom of nonconsumptive recreational use dating back to the Middle Ages (Paulsson 1978; Kolby 1988), local organizations in Sweden promoted wildlife preservation, particularly for birds, as early as the 1870s. Later joined by hunting interests that sought to protect decimated wild animal populations, by the end of the 19th century these community organizations—often comprised of influential citizens, scientists (particularly botanists), and academics—supported protection for important local bird and wildlife habitats, and in some cases succeeded (Schaar 1978, 11-14; Haraldsson 1987, 49-59). Against a backdrop of rapid social change caused by widening industrialization, these groups embodied a change in Swedish attitudes toward the natural environment, from a strictly utilitarian perspective of nature as a commodity provider, to a deeper appreciation for Swedish nature as valuable in itself and as a place for recreation. “During the 1890s with its national romanticism, its new feelings for Sweden and Swedish nature, a cultural climate which was favorable for the appearance of a movement for nature protection was created. Nature was seen as an altogether more valuable immaterial resource, whose values the quick social transformation with its extensive encroachment in nature could threaten” (Haraldsson 1987, 82).

Table 1. Elements of Swedish forest management practices and corresponding expenditures, 1979/80–1993/94

<i>Contribution</i>	<i>Measure</i>	<i>Cost share, %</i>	<i>Region</i>	<i>Subsidized area, ha</i>	<i>Total spent, million kronor</i>
Forest planting on former agricultural land	Deciduous tree planting, coniferous tree planting	50 35–50	Entire country	10,469	6
Measures in the special support area (inner areas of the northern counties)	Regeneration measures	30–50	Support area	875,180	1,149
Reestablishment of low-productive forests (§5:3)	Regeneration measures	50	Entire country	401,960	1,264
Thinning of small-dimension wood*	Commercial thinning		Entire country	140,797	97
Forestry plans	Plan production		Entire country	1,338,870	15
Forest roads	Construction	40–75	Entire country	14,380 km	620
Forest ditching	Ditching	40–50	Entire country	143,598	93
Valuable deciduous species	Regeneration, pre-commercial thinning	80 60	Entire country	75,282	108
Nature and cultural conservation measures	Pre-commercial thinning, etc.	50	Entire country		47
General Forest Inventory	Inventory	100	Entire country	11,000,000	580
General development support	Applied research, development work	100	Entire country	–	115 (for 1975-93)

*A temporary, 6-month stimulus measure for commercial thinning preceded this in 1979, offering a fixed subsidy of 500 to 900 kronor per hectare, depending on the location of the property.

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In 1909, the Riksdag passed the Nature Conservancy Act, which created the first 10 national parks in Europe. The period also saw the birth of SSNC, whose founders represented the social interests that originally promoted wildlife preservation, including botanists, advocates for forest management, and representatives for hunting, recreation, and tourism (Haraldsson 1987, 62-82; Schaar 1978, 20-22). In its early days, "SSNC had major resources in the form of experts with substantial expert knowledge and high prestige. Through different board members there were channels to important decision-makers and decisions, and administrative centers in the field of nature protection" (Haraldsson 1987, 125). During the first part of the 20th century, SSNC embodied the nation's predominant nature conservation perspective at the time. Conservation was a means to limit human activities within designated regions, in order to promote scientific research, aesthetic appreciation, cultural enrichment, and tourism (Haraldsson 1987, 60-83).

As in other countries, however, Sweden's preservation movement underwent a major reorientation as the decades progressed, particularly after World War II. At SSNC, the result was an organizational focus on "nature protection for large population groups and not only for a few experts. It was also a nature protection with a wider interest for the use of natural resources on a large scale...This direction pointed forward toward a more active nature conservation and toward today's overarching environmental interest" (Haraldsson 1987, 210). In the post-war era, establishment of the Swedish Field Biological Youth Association, a confederation of local nature studies clubs that evolved into a training ground for youthful environmental protest (Lindfeldt 1979), and the publication in translation of *Silent Spring* (Carson 1963) were milestones in the expansion of Sweden's modern environmental movement (Jamison et al. 1990). These were further signs of the "ecologization" of Sweden, the seepage of ecological ideas beyond long-established scientific and academic circles, into broader social and political spheres (Söderqvist 1986). The Riksdag passed the landmark Nature Conservancy Act of 1964 (Naturvårdslag 1964:822), creating the system of nature reserves which now encompass nearly 80 percent of the country's formally protected land and water (Statistiska Centralbyrån 2004, 1).^{*} And 1967 saw the birth of the Swedish Environmental Protection Agency (originally Statens Naturvårdsverk, now Naturvårdsverket, and abbreviated here as

^{*}In 1998 the Riksdag consolidated the Nature Conservancy Act into a comprehensive revision of the nation's environmental legislation (Miljöbalk 1998:808).

SEPA), the first comprehensive environmental agency of its kind (Jamison et al. 1990, 20). By the early 1970s, international media attention on two events in Stockholm further cemented Sweden's reputation for environmental consciousness. In 1971, thousands of students, city residents, and environmental activists demonstrated to save a group of elms in central Stockholm scheduled for felling to make way for a subway station (Jamison et al. 1990, 30; Larsson 1999, 297; Dahlberg 1999, 268). The next year, the United Nations Conference on the Human Environment became the first such conference to gather world leaders for a comprehensive, global evaluation of environmental issues (United Nations 1973; Stone 1973).

By this time, Swedish environmentalists and others had also begun to focus on the ecological effects of intensive industrial silvicultural activities. Clearcuts, herbicide spraying, the beech forests in southern Sweden, and soil preparation techniques were all the subjects of government investigations and parliamentary action (Ekelund and Hamilton 2001, 56-58, 82-83). As a sign of the widening interest in the nation's largest natural resource user, production forestry, in 1973 both SEPA (Statens Naturvårdsverk 1973) and SSNC (Larsson 1973) issued reports examining the subject. SEPA's document did not set forth the agency's opinions, but instead offered straightforward descriptions of the state of scientific knowledge and current forestry practices. The report from SSNC, part of an annual series examining natural resource issues, was in contrast notable for its explicitly ecological perspective. This report outlined the growing, but then still relatively new, scientific knowledge of the relationships between organisms and their surroundings, and the changes that contemporary forestry operations caused.

Near the end of the decade, just as official forest policy was focusing even more strongly on timber and pulp production, SSNC also published the first edition of *Levande Skog* (Svenska Naturskyddsföreningen 1978). The book declared that, in the ongoing debate, it "...is meaningless to discuss if we shall use the forest or not. *This is instead about the type and intensity of different methods of use*" and advocated "a forestry that 'so far as possible works together with nature.' We are convinced that such a use of the forest gives the greatest social value and, furthermore, in the long run is the only kind possible" (Svenska Naturskyddsföreningen 1978, 4; italics in original). Following the 1974 inclusion of the nature conservation provision in the Forestry Act, the first major NBF publication regarding nature conservation in production forestry had been *Natur- och landskapsvård* (Skogsstyrelsen 1974), which emphasized preservation and management of valuable landscapes, recreational

areas, and cultural artifacts. A more detailed text, focusing on animal conservation, appeared near the end of the decade (Ahlén et al. 1979), with a companion volume for plants following in 1981 (Ingelög 1981). Together, the books applied the agency's administrative philosophy—that NBF should help landowners solve problems based on sound knowledge about forest management—to the developing realm of animal and plant habitat preservation. The plant volume in particular offered a set of principles for determining why, and how, certain species should be saved, as well as guidelines for applying the principles in the context of contemporary silvicultural practices (Ingelög 1981, 16-31). A later, companion book authored by a number of botanists (Ingelög 1984) described some 300 threatened or rare forest plant species.*

For Sweden in the early 1980s, the preservation of habitats for endangered or threatened plant and animal species became a dominant theme in the debate over forestry's environmental effects, and therefore part of a wider discussion about the ecological impact of modern industrial society. A 1982 SEPA report, for example, identified five major problem areas expected to dominate the agency's work for the rest of the decade (Statens Naturvårdsverk 1982). These were atmospheric acid deposition, auto emissions and traffic noise, the health and environmental effects of long-lasting chemicals, garbage and recycling, and the depletion of landscapes, habitats, plants, and animals—caused in part by modern, rationalized agriculture and forestry. Species disappearance was particularly troublesome, the report noted, because it seemed to be accelerating:

Species have disappeared long before man began to manage the environment. Changes in fauna and flora are part of the natural development processes that always occur in nature...But the changes in plant and animal life we notice now are occurring very fast, measured by nature's timescale. This shows that the changes are unnatural and that something serious is happening. Human activity of some type, almost without exception, is behind the threat. (Statens Naturvårdsverk 1982, 84-85)

Simple forethought was one of the best methods to ensure the survival of these threatened species, the agency believed. "The most important instrument for an effective protection of flora and fauna is consideration within land-use planning and in different types of land use activities (local planning, forestry, agriculture, road

*NBF publication of a text did not necessarily imply full endorsement of the material, though. As the foreword to the animal conservation volume, for example, states, "The authors are responsible for the content but the text has been prepared in consultation with the National Board of Forestry" (Ahlén et al. 1979, 1).

planning, etc.),” where the most meaningful part is to guarantee that a sufficient population of a threatened species has the “possibility to survive under natural conditions. National parks, nature reserves or other areas with more or less comprehensive limitations on land use...perform in many cases important functions” (Statens Naturvårdsverk 1982, 100). Yet the overall financial impact within the landscape of production forestry would most likely be small. SEPA believed that “even if nature conservation would multiply many times its encroachment in production forestry, there will only be marginal production reductions for the forestry sector as a whole...On the other hand, individual properties can be affected by encroachments which can be noticeable for the owner” (Statens Naturvårdsverk 1982, 124).

SEPA proposed 10 goals for its future work in the forestry sector, one of which was that “forestry, based upon domestic, natural conditions, is conducted in a long-range and sustainable way” and “not in a way that diversity of animals and plants is reduced” (Statens Naturvårdsverk 1982, 124-125). The report also proposed a range of means to support the work, including research, information, education, and application of the existing forestry and nature protection legislation. “The Forestry Law’s §21 is in general sufficient to satisfy nature conservation within production forestry,” the report noted (Statens Naturvårdsverk 1982, 125). A more detailed action program issued a year later (Statens Naturvårdsverk 1983) agreed, stating seven general principles. Among them were that production forestry as much as possible should accord with natural conditions; that forest valuation should also count recreational, hunting, water, and habitat values; and that the framework of the Forestry Act—in specific, §21, the general nature conservation provision—could on the whole satisfy environmental interests (Statens Naturvårdsverk 1983, 13-14). Shortly after this report appeared, though, over 1,000 Swedish researchers in the biological and geological sciences signed a petition to the government demanding greater biodiversity protection, more extensive preservation of natural areas, and strengthening of the nature conservation regulations for agricultural and forestry operations (Ingelög and Tamm 1984).

As written, the Forestry Act, §21, and the regulations issued under their authority may have been sufficient on paper, but no law is self-implementing, and actual human behavior may diverge widely from legislative intent. In this case, a groundbreaking field survey of 158 Swedish clearcuts, evaluated before and after harvest from 1982 to 1985 (Eckerberg 1986, 1990), showed that “roughly half of the environmental features required were protected, according to Forestry Act regula-

tions and preservation recommendations made by researchers. As a whole, approximately two out of five clearcuttings did not comply with the requirements" (Eckerberg 1990, 155), as determined by the legal regulations and the additional recommendations from the researchers. The choice of protected areas also showed a distinct bias that did not necessarily favor habitat conservation:

Flora and fauna habitats (for example buffer zones along water courses and nesting trees for birds) were the least protected compared to aesthetic vales (such as single, beautiful trees and buffers adjacent to lakes and residential areas). Bogs, fens, and bedrock areas, which are most often technically and/or economically unsound to harvest, were frequently retained in accordance with the environmental regulations. (Eckerberg 1990, 155)

The major factors that determined this outcome were forest owners' economic considerations and harvest technology (Eckerberg 1990, 161). Since the study did not precisely match its 44 categories of possible environmental protection measures to those required by §21 of the 1979 Forestry Act (Eckerberg 1990, 27-28), it may not have been entirely fair to evaluate the law based on the outcome of this study alone. Yet the implications were not good. Furthermore, the results appeared just as environmental ideas were becoming all the more integrated into Swedish political and social life (Jamison et al. 1990, 57-63). For example, the Swedish environment and energy minister appointed an investigator to thoroughly review the organization of national environmental protection. As she noted in her directive, "Our knowledge of the comprehensiveness and complexity of environmental problems has increased, and thereby also the insight that within many areas basic changes of different activities are necessary, if we shall be able to prevent continued environmental destruction" (Dir. 1986:25, 2). Soon thereafter, publication of the landmark report *Our Common Future* (Brundtland Commission 1987), issued by a commission chaired by Norwegian Prime Minister Gro Harlem Brundtland, reiterated the message that averting an impending environmental crisis required immediate and decisive action.

IV. The Environmental Legislation of 1988

By the late 1980s, it was clear that Swedish forestry was on the verge of significant changes pointing toward greater environmental responsibility. Yet it remained to be seen precisely where official forestry policy was heading, and exactly how forestry companies and individual landowners would need to alter their activities in light of new expectations from the government and the general public. The

government's major environmental bill of 1988 (Prop. 1987/88:85) began a lengthy process to resolve the answers to those questions. With *Miljöpolitiken inför 1990-talet*, the environment and energy minister presented for the Riksdag's consideration a large and diverse set of legislative proposals. The bill incorporated the work of at least 19 different official government review committees, reports by internal agency working groups, and proposals from affected business federations. The legislation involved not only nature conservation, but also air pollution, heavy metals, the ozone layer, acid deposition, protection of cultural artifacts, and garbage disposal, among others (Prop. 1987/88:85, 1-4, 21-25). The aim was to present an integrated account of the direction of Swedish environmental policy leading up to the 1990s (Prop. 1987/88:85, 21). The bill's intellectual heritage was quite clear: "Our generation risks consuming resources in such an amount that it can threaten man's future support," according to the bill's introductory chapter (Prop. 1987/88:85, 31), reflecting the sustainable development ideas emphasized in *Our Common Future* (Brundtland Commission 1987, 43-66). The passage continues: "Therefore, in my opinion it is important to emphasize that an economically favorable development in a long-term perspective requires an environment that can provide a sustainable production of nutrients necessary for life, and other useful goods, and can create acceptable living environments for man, animals, and plants" (Prop. 1987/88:85, 31). For Swedish forestry, the legislation—both the text itself, and the debate during its passage—established the general outlines for government environmental policy in several different areas. And ultimately all of these were significant factors in determining the environmental conservation responsibilities of Swedish industrial and non-industrial forest owners, though clarifying the details remained a major task.

To begin with, the legislation recognized the negative effects of modern, production-oriented forestry practices, and widened the political meaning of nature preservation in this context. As a number of passages that resemble the argument of *Levande Skog* from only a few years earlier make abundantly clear, the environmental critiques of contemporary forestry no longer remained at the level of administrative agencies* or among related interest groups. According to the bill's chapter on the overall direction of environmental policy, forestry alters the environment via "often homogeneous, highly-productive stands of above all spruce and pine.

*Swedish government agencies and ministries are formally separate; the latter set overall policies (Pettersson 1994, 96-111; Hecló and Madsen 1987, 10-12).

Production-increasing methods, such as wetland ditching and use of foreign tree species like Lodgepole pine, do the same. Nature types such as virgin forests, valuable broadleaf forests, and wetland forests have decreased fast and have in certain areas already disappeared" (Prop. 1987/88:85, 35). Man has long used the forest, the bill noted, but modern changes have occurred with a speed and breadth unequaled in the past, a threat to invaluable genetic resources (Prop. 1987/88:85, 46-47).

The bill also explicitly connected the preservation of nature with economic development:

Nature conservation and economic development must go hand in hand. Man creates the basis for the development only by caring for the natural resources in the right way. This assumes that man protects species, saves natural areas and secures nature's productive capacity. Securing a diverse natural environment is necessary if we shall secure a high living standard in a wider sense. (Prop. 1987/88:85, 47)

It was not merely sufficient to protect certain very valuable natural areas. Rather, it was even more essential to save important environments within the context of ordinary agricultural and forestry activities, as outlined in §21 of the Forestry Act and the laws governing agriculture and other activities (Prop. 1987/88:85, 47-48). This was, in other words, a multiple-use policy for Swedish forestry that explicitly included biological diversity. "Use of the forest shall be characterized by so-called multiple-use. The forest shall be able to deliver raw material, function as a living environment for plants and animals, and provide possibilities for recreation. It is important that production forestry allows a large biological diversity," by adapting silvicultural methods to the environmental and biological conditions of individual stands, and by including a higher proportion of broadleaf forests (Prop. 1987/88:85, 49).

In light of the intellectual climate of the times, this development does not appear surprising. As the bill itself noted, NBF had already begun a comprehensive internal education program for all agency personnel who oversaw silvicultural activities (Prop. 1987/88:85, 54). The program focused on adapting production forestry to the specific conditions of the individual stand (Ekelund and Hamilton 2001, 94-95), using a new book on forest ecology (Lundmark 1986). Two other developments seem just as important in defining the extent of Swedish nature conservation in forestry operations. First, although *Miljöpolitiken inför 1990-talet* included a set of recommendations to guide national and local governmental nature conservation activities (Prop. 1987/88:85, 61-63), the bill did not propose any changes to the

Nature Conservancy Act of 1964, which of course formally governed the establishment of national parks and other conservation areas. However, the environment and energy minister did suggest that she now recognized the need for a thorough review of that law, and would shortly propose that such a review be conducted (Prop. 1987/88:85, 51). In fact, just two years earlier SSNC had published its own, exhaustive proposal for a new nature conservation law (Westerlund 1986), which would come to play a role in the review which occurred as a result of the minister's request. The legislative proposals that arose from that review produced a new type of habitat protection, designed to protect some of the smallest habitats with the highest biodiversity—and at the same time created a new set of questions about costs, procedures, and the level of responsibilities of the Swedish state.

The other important development involved the principles to apply in negating the harmful environmental effects of various human activities. To the extent that the multiple-use policy outlined in *Miljöpolitiken inför 1990-talet* affected the production of timber and pulp, the proposition was not entirely consistent about where, or how, to draw the line between state and individual financial responsibilities, due to an unresolved policy conflict. As the legislation noted, Swedish forestry as a separate business sector had already carried a certain level of responsibility for nature conservation, included in the Forestry Act since 1974, parallel to similar duties in laws governing other business sectors (Prop. 1987/88:85, 36-37). The bill reiterated the importance of this "sectoral responsibility." For example, in its section entitled "The agriculture-based industries and their influence on the natural environment," the legislation declared, "Respect for the natural environment must always be an important part of all land use in society. Among other things, production forestry and agriculture must be conducted in such a way that consideration of the interests of nature conservation is taken" (Prop. 1987/88:85, 52). And, discussing the necessity "to preserve all occurring nature types, both natural and representing human influence, in such an amount and in such a way that they can be maintained in the long term" (Prop. 1987/88:85, 58), the text emphasized the importance of actions by forestry and agricultural interests:

Every branch of industry has according to applicable legislation a responsibility for nature and the environment within its area of business. Measures within forestry and agriculture play an especially large role for the preservation of nature types. The consideration for the interests of nature conservation on agricultural and forestlands is regulated, as I earlier mentioned, in the agricultural law and the forestry law. It means in principle that these industries have a certain responsi-

bility to protect and conserve valuable nature types. In the cases where continuing land use would be obstructed as a result of the intensity of the protective interests, the Nature Conservancy Act should be applied. (Prop. 1987/88:85, 58)

Regulations issued under §26 of the Nature Conservancy Act allowed payment of compensation to landowners when creation of protected areas limited their ability to use their land for agriculture or, on forestland, to harvest and apply other silvicultural measures (Naturvårdslag 1964:822).

In other words, “a certain responsibility” is a finite amount, and if not precisely defined, at the least bounded by provisions of existing legislation, and by implication the budgets of the agencies that finance the compensation payments. At the same time, though, the bill’s second chapter, “Environmental policy’s direction,” endorsed another principle as an overarching goal for Swedish environmental policy. However, this principle was not necessarily consistent with the sectoral responsibility concept. “The costs for necessary environmental measures that can occur for business and society must be seen in relation to the inconveniences and costs that would arise if environmental destruction would be allowed to continue. The costs to reduce the environmental damages and repair existing damages should be borne by those who cause or have caused the damages” (Prop. 1987/88:85, 31). This text expressly refers to the polluter-pays principle developed by the Organisation for Economic Cooperation and Development (OECD 1975), which Sweden and the other member countries had adopted in 1972:

The principle to be used for allocating costs of pollution prevention and control measures to encourage rational use of scarce environmental resources and to avoid distortions in international trade and investment is the so-called “Polluter Pays Principle”. The Principle means that the polluter should bear the expense of carrying out [pollution reduction and resource allocation] measures decided by public authorities to ensure that the environment is in an acceptable state. In other words, the cost of these measures should be reflected in the cost of goods and services that cause pollution in production and/or consumption. Such measures should not be accomplished by subsidies that would create significant distortions in international trade and investment. (OECD 1975, 12-13)

As stated, the principle appears most applicable to “traditional” emission types, the by-products of industrial production, with identifiable pollution sources and marketable products to which the clean-up costs might be applied. In the context of this legislation, with its strong focus on controlling chemical pollutants, it is difficult to imagine that this concept would—or could—find application within production

forestry, particularly in view of the apparent limitations of “sectoral responsibility.”

Yet another legacy of the conflicting ideas in *Miljöpolitiken inför 1990-talet* was that the Swedish government seriously considered applying the polluter-pays principle to the forestry sector, though the government eventually determined that this would be impossible. While today that notion may sound unusual, this was a period when environmental sentiments ran high in Sweden. During the general election held in the autumn of 1988, for example, 46 percent of Swedish voters named environmental problems as among the most important issues determining their party vote, the highest percentage that a single subject had ever reached (Bennulf 1994, 74-75). One result was the entrance of an explicitly environmental party, the Greens, into the Riksdag, finally clearing the Swedish constitution’s 4 percent minimum requirement for representation after two unsuccessful attempts (Bennulf and Holmberg 1990; Gilljam and Holmberg 1990).

V. Protecting Small Habitats

Immediately after passage of the environmental legislation in June of 1988, the environment and energy minister did indeed request a review of the Nature Conservancy Act of 1964, in this case by a single investigator rather than a committee (Dir. 1988:36). Among a list of subjects, she requested that the investigator review the need for a new form of protection for endangered species and their habitats, noting that SSNC and others had suggested that the law’s existing conservation forms were ineffective for that specific purpose (Dir. 1988:36, 6). Initially, the investigator believed that provisions of the existing law were sufficient, noting in a draft memorandum that these “from a formal viewpoint give essentially satisfactory possibilities to uphold the species and habitat protection that is needed” (Naturvårdslagsutredningen 1989a, 18-19). Any problems which may have been observed, the draft noted, were the result of a lack of knowledge of the regulations by landowners, and extreme caution in implementation by the affected government agencies (Naturvårdslagsutredningen 1989a, 19). A few weeks after that draft appeared, SSNC responded with a forceful argument in favor of expanding the law:

The different types of area protection that the Nature Conservancy Act offers make it—with today’s supply of personnel and economic resources—necessary to concentrate protection efforts on a relatively limited number of larger nature reserves and national parks. For consideration of nature conservation outside these reserve areas,

there is often nothing other than the nature consideration regulations in the agricultural economic sectors' management laws. These regulations are, however, not sufficiently extensive to prevent many of the utilization measures and other actions that threaten to destroy the many—each often very small—areas that are necessary for the survival of many plants and animals, and also create the variety in the landscape that many people appreciate. It is, according to the Society's opinion, obvious that there is a gap between these regulation systems that must be bridged. (Svenska Naturskyddsföreningen 1989, 2)

In the investigator's next draft of the memorandum, prepared roughly a month later, his position changed markedly. "The discussion that occurred around [the earlier draft] made it clear that the regulations about nature consideration in the Agricultural Land Management Act and the Forestry Act were not considered to be sufficiently effective or extensive to protect certain very valuable nature types or habitats" (Naturvårdslagsutredningen 1989b, 1). And in support of this view, the above text from SSNC appeared, quoted in its entirety (Naturvårdslagsutredningen 1989b, 1-2).

At this point, the second draft contained a list of only 10 types of habitats believed to need the new protection (Table 2), and the review itself was a long way from its expected completion date in 1990 (Dir. 1988:36, 8). Nevertheless, it is clear from a SEPA internal discussion memorandum that agency personnel already had well-articulated ideas about how to change the law. In particular, their viewpoint emphasized the need for a general protection for more habitat types.

The need for a general protection for certain nature types and habitats is large. The background is that certain nature types/habitats have diminished significantly in recent years, and that they in many cases can be said to be generally threatened. The species that are more or less tied to these nature types are therefore exposed to a general threat...

The protection ought to be constructed as a general protection valid for all areas that are included in a certain, defined nature type/habitat. Eventually a lowest area limit can be set to exclude fragments (such a limit should, though, be set very low). The protection's construction means that the nature type/habitat must be defined... (Lundin, Löfroth, and Terstad 1989, 3)

This document—notably prepared before the investigator's conservative initial list of 10 proposed habitats—spelled out 21 varieties of nature types or habitats, in three categories, suitable for such a general protection (Table 3) (Lundin, Löfroth, and Terstad 1989, 5-6). Despite the smaller number included in the investigator's second draft, and the initial outline of proposed legal text incorporating that list, the memo

Table 2. Small habitat types initially proposed for protection by the independent investigator during the review of the Nature Conservancy Act, March 1989

Calcareous fens
 Alder wetland forests
 Hazel-rich forests
 Heathlands
 Sandy steppes
 Hay meadows
 Shoreline meadows
 Exposed calcareous ground
 Water-filled moraines and kettles
 Water-filled marl pits

Source: Naturvårdslagsutredningen 1989b, 8.

did favor SEPA in one important respect. “The task to determine the criteria should depend on the Swedish Environmental Protection Agency, while the task to map the habitats should lie with the County Administrative Boards. The decisions about mapping should obviously be communicated to the affected property owners” (Naturvårdslagsutredningen 1989b, 3). This seemingly minor administrative decision actually had major implications. Some of the proposed habitat types could occur on forestland, where the Forestry Act—administered by NBF and its local boards—applied (Skogsvårdslag 1979:429, §2). So, as initially written, the proposed habitat protection legislation indicated that another agency, the County Administrative Board, might gain significant authority that could conflict with ongoing forestry activity. The withdrawal of some forestland from production might thus result from the county’s action, via the proposed legal text’s prohibition on “work operations that can injure the natural environment” within the habitats (Naturvårdslagsutredningen 1989b, 8).

The response was quick from the NBF departmental director appointed as the forestry expert for the review, Hans Ekelund. “I want as a beginning clearly to declare that I believe the small habitats and certain ecologically sensitive areas should be better taken into consideration than happens today,” he wrote (Ekelund 1989, 1), noting that NBF would soon implement a large educational campaign among forest owners, as well its own formal study of the implementation of the

Table 3. Habitats and nature types that Swedish Environmental Protection Agency personnel first viewed as potentially suitable for a general protection under the Nature Conservancy Act, February 1989

<i>A. Nature types and habitats that do not depend on cultivation:</i>
Black alder forests
Calcareous fens
Natural springs and surrounding wetlands
Wooded patches within open meadows
Shorelines of natural lakes and streams
Ash-rich wetland forests
Spruce forests with thick, dense herbaceous undergrowth
Natural portions of streams
Virgin forests of oak, beech, elm, ash, maple, basswood, sweet cherry, and hornbeam
Small ponds in the agricultural landscape
<i>B. Nature types and habitats that depend on cultivation:</i>
Heathlands
Sandy steppes
Hay meadows
Wetland meadows
Natural pastureland
<i>C. Geomorphologic features (these, though, are not to be considered as habitats in the word's ordinary meaning):</i>
Ravines
Steep, sandy riverbanks
Sand dunes (ancient and new)
Exposed bedrock
Karst formations
Natural caves

[Translator's note: This document predates the independent reviewer's shorter list of habitats initially proposed for protection under the act (Table 2).]

Source: Lundin, Löfroth, and Terstad 1989, 5-6.

Forestry Act's §21. Yet based on his document, it is clear that NBF opposed a general protection for the small habitats as outlined in the SEPA document, instead preferring that this be included as part of the sectoral responsibility for nature conservation under §21 of the Forestry Act:

I consider that both the small habitats and the consultation within the surveyed, ecologically sensitive areas will mean that the Forestry Act's nature consideration regulations will lose this area of competence. One can hardly have supervision for the same thing from both the County Administrative Board and the County Forestry Board. We have earlier in the investigation discussed the responsibility of the business sectors and of the sectoral regulatory authorities, and, as I then understood, it was not the investigation's task to reduce the responsibility of the sectoral regulatory authorities in their legal administration, but perhaps the opposite, to place increased demands on the work of these authorities. The proposal put forward means undeniably that the opposite occurs. (Ekelund 1989, 2)

And he continued, "I worry that the legal administration for the named objects in their entirety would be moved from the Forestry Act to the Nature Conservancy Act" (Ekelund 1989, 2-3). He explained that the County Administrative Boards already had four separate administrative means to influence particular forestry activities. "In total for the whole country this concerns several thousand objects that, in consultation or by application, involve the County Administrative Board and that in some way concern work activities within production forestry" (Ekelund 1989, 3-4).

As the review progressed through 1989, SEPA staff members continued to favor a general protection, administered by the County Administrative Boards (Löfroth and Terstad 1989). By early 1990, a later version of the draft habitat protection memorandum noted SEPA's work to determine criteria for different types of threatened habitats and how they should be mapped. "When that work is finished, it may be considered which habitats are suitable to receive a direct protection and which are necessary, for legal reasons, first to survey on the land, and in connection inform the affected landowner of the decision about protection and demarcation" (Naturvårdslagsutredningen 1990, 38). The agency that would set the boundaries remained the same as earlier, the County Administrative Board, though in this version of the proposal the landowner could request an exemption (Naturvårdslagsutredningen 1990, 38). And as before, this new habitat protection would become a part of the Nature Conservancy Act (Naturvårdslagsutredningen 1990, 40).

Nonetheless, the forestry representative continued to emphasize how this construction deviated from Swedish environmental policy's stated goal of increasing responsibility for environmental action within the business sectors—and the possible consequences of the change. In part, he also worried that establishing this new form of protection under the Nature Conservancy Act could create another form of control similar to the “areas of national interest” which had followed enactment of the Natural Resource Management Act in 1987.*

The Swedish environmental policy during the past years has been striving to place an increased responsibility on the different sectors and to decentralize: that is to say, move out responsibility to local municipalities, sectoral authorities, and tradespeople in their work activities. In the directive to the review of the Nature Conservancy Act, one can glimpse another direction, where it says that it is the Nature Conservancy Act that shall be strengthened. From the statements made at the beginning of the investigation, though, it appears that strengthening of the Nature Conservancy Act should not reduce the range of authority of the sectorial legislation.

The proposal about habitat protection and protection for especially sensitive areas now set forth is, as far as I can judge, a return *in part* to choose another way than sectoral legislation, and *in part*, by placing responsibility on the County Administrative Boards, to point out small habitats as well as ecologically sensitive areas as occurrences that ought to get such treatment that they are set equal to areas of national interest. It is said, certainly, in the final chapter that the proposed protection does not aim to replace decisions about nature protection that are in the sectoral land management laws. That, though, is the case, and by mapping the areas that are especially valuable and interesting, this also diminishes interest in observing the sectoral laws, which as the worst result can mean that better observance can be difficult to obtain. (Ekelund 1990b, 3; italics in original)

“The investigation of the Nature Conservancy Act has in many cases developed into an investigation of production forestry's nature conservation questions,” he continued, recognizing the common perception that application of the Forestry Act's §21 could be better. “It shall at the same time be said that the defects in observance that are noticed concern the areas within a production unit where the forest owner decided to pursue production forestry, not the areas where, for example, there are varying habitats that he has decided to leave alone” (Ekelund 1990b, 3). But to now

*That legislation regulated land and water use and aimed for sustainable management of natural resources. In some designated regions, including areas where recreation and tourism were important, the law allowed only certain types of construction. The law specifically protected forestland against actions that could hinder forestry activities, but protection for other interests could require modifications of silvicultural methods (Naturresurslag 1987:12; Håkansson 2000, 329-330).

separate the small habitats from §21 and make their protection subject to legal sanction under the Nature Conservancy Act left an impression that the investigation considered NBF secondary regarding competence in the nature conservation field (Ekelund 1990b, 4). Administratively, he suggested a compromise:

It is entirely possible to build into the Nature Conservancy Act basic legislation but carry over the application via either the nature protection regulations or the forest management regulations administered by the County Forestry Boards. And, of course, it is natural that the environmental authorities at the County Administrative Boards shall also have an overarching responsibility, a supervision and a task to coordinate the activities of the County Forestry Boards in that connection. (Ekelund 1990b, 5)

In a memorandum written near the end of the review, he suggested that questions regarding the responsibility for nature conservation during forestry operations required consideration by a panel with wider representation than the group of experts that had assisted the Nature Conservancy Act review (Ekelund 1990a, 1-2).

Ultimately, the final report from the investigation, issued in April 1990 as *Översyn av naturvårdslagen m.m.* (SOU 1990:38), declared that the proposed legislation “shall include a protection for all types of work activities and as such not only include work activities within agriculture and forestry. For that reason it is hardly suitable to place a general habitat protection within the sectors’ land management laws, even if the habitats mainly are found within agriculture and forestry. According to the investigation it is therefore better to place a general habitat protection in the Nature Conservancy Act” (SOU 1990:38, 120). And since the investigator believed that existing information did not allow him to decide which habitats should be protected, he proposed that SEPA should consult with NBF and the agricultural authority to develop the list (SOU 1990:38, 120). The habitat types slated for immediate protection—those that were very easy to recognize in the landscape—would be directly written into the nature protection regulations. For the habitats which required surveying of individual sites, “The work to survey the habitats as well as ensure that the habitat protection is observed can be placed either with the County Administrative Board or with the respective sectoral authority for agriculture and forestry” (SOU 1990:38, 121). The representative for the forestry sector had thus at least obtained the possibility for NBF to administer the new form of protection on forestland. “For production forestry’s part the National Board of Forestry and the County Forestry Board have for a long time worked with nature protection questions,” the report declared (SOU 1990:38, 121). It also noted such activities as the

detailed regulations and advice issued in connection with §21, plus information and educational campaigns for forest owners and workers (SOU 1990:38, 121-122).

With consideration of these conditions, and the well-established principle by the state authorities on several occasions, that every sector in society take its environmental responsibility, it is clear according to the investigation that it is suitable to place the responsibility to accomplish the protection of the forest habitats with the County Forestry Board. This anticipates that close cooperation with the County Administrative Board occurs in these questions. And it anticipates that SEPA receives the authority to issue instructions on how the cooperation shall occur. (SOU 1990:38, 122)

Despite the earlier view that the County Administrative Boards would be the most appropriate agencies to administer the provision, this proposal recommended that NBF retain primary authority for implementation of the new habitat protection on forestland, the majority of the nation's land area. But according to this recommendation, NBF would not keep the new habitat protection within the framework of the Forestry Act's §21, and thus within Swedish forestry's understanding of the limits of sectoral responsibility for nature conservation, as expressed in the Forestry Act and in the government's environmental legislation of 1988. Whatever the boundaries for the concept were, the logic of the habitat protection proposal meant they were at least in part outside of the governing sectoral legislation—and consequently that the division of responsibility lay outside of the total control of the sectoral authority, NBF.

Legislation to enact the habitat protection and the special investigator's other recommendations arrived in early 1991 (Prop. 1990/91:90), after the traditional examination by local authorities, interest groups, and other affected parties, a consultative procedure long a part of the Swedish legislative process (Petersson 1994, 90-91). During the intervening period, the government initiated a comprehensive review of the entire Forestry Act (Dir. 1990:47). According to Agriculture Minister Mats Hellström, the three most important reasons for the review were forestry's economic importance (and the concomitant need to use resources effectively), further development of biofuels as a domestic energy source, and—naturally—environmental considerations (Dir. 1990:47, 2-5). He specifically noted how environmental demands had changed in recent years:

The nature conservation that characterized the 1970s was often directed at care and protection of especially valuable natural regions. Increased knowledge in the form of new research results, among other types, has shifted the focus of nature conservation toward preservation of a rich flora and fauna and of biological diversity. During the 1980s,

insight about the need for a forestry that builds upon the natural conditions has increased. (Dir. 1990:47, 3)

Hellström appointed the previous agriculture minister, Svante Lundkvist, to head a 10-member committee of mostly current or former members of the Riksdag, plus a municipal commissioner and a forester. He also appointed a number of experts to assist the group, including the heads of NBF and SEPA, and representatives from the nation's major forestry organizations. These included the federation of forest owners, forestry labor unions, and the forest industry association. SSNC and the World Wildlife Fund also had experts assisting the committee (SOU 1992:76, 3-4).

In assigning specific tasks for the proposed review committee, Hellström emphasized responsible natural resource use. "The forest and the forestland may consequently not be used or treated in such a way that its productive capacity is wasted. Such a management includes everything from protection of biological diversity to care with soil preparation" (Dir. 1990:47, 7). To ensure that this principle becomes a foundation for new forestry legislation, he wrote, "The investigation should make precise an environmental goal for forestry. A beginning point should then be the environmental goals that were established in 1988's environmental policy decision, which also confirm the sectoral responsibility for environmental management..." (Dir. 1990:47, 8). Thus, while the habitat protection proposal—a plan that overlapped traditional sectoral understandings—was under formal review, the government in effect declared that forestry's formal sectoral environmental responsibility itself should change. And that this should happen in line with the themes in *Miljöpolitiken inför 1990-talet*, which of course had also motivated the habitat protection legislation.

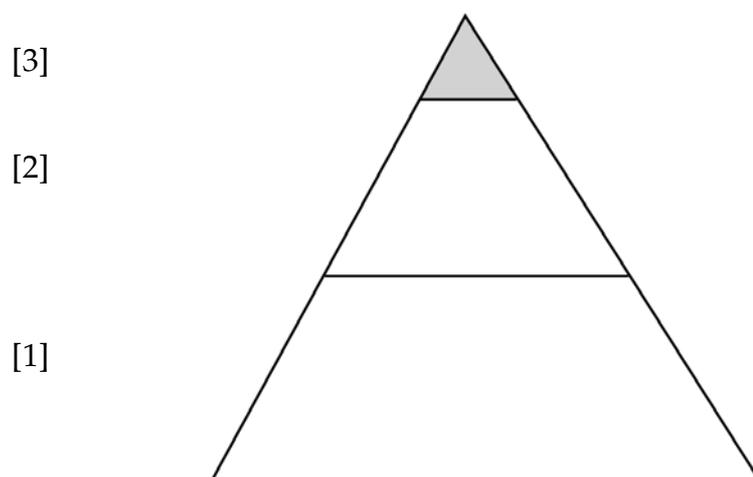
Exactly how that change would occur was among the new forestry policy review committee's tasks to decide, during the two years which the government had proposed for the investigation (Dir. 1990:47, 10). By late 1990 a concept that would become a key framework for the issue appeared in SEPA's first comprehensive action plan for nature conservation, *Natur '90* (Naturvårdsverket 1990). Echoing the ideas in 1988's environmental legislation, this report declared, "The overarching goal for nature conservation and management of the natural resources is to protect the biological diversity, the genetic resources and the natural resources' function" (Naturvårdsverket 1990, 30). Expanding on the conceptual basis first developed in *Miljöpolitiken inför 1990-talet*, the report suggested how nature conservation in the context of ordinary forestry and agricultural activities, governed by sectoral legisla-

tion such as the Forestry Act, could fit within a larger national strategy. *Natur '90* suggested a three-tiered model (Figure 1), “where the landscape can be compared to a pyramid with the following construction regarding natural and cultural values as well as need of measures, division of costs and responsibility. 1. A large, base area that can be described as ‘ordinary activities’. 2. A smaller, higher part that represents areas with higher value. 3. A small top representing especially valuable areas” (Naturvårdsverket 1990, 36). Good natural resource management within ordinary land-use activities, at the base of the pyramid, would occur foremost in the context of regular nature consideration in all activities, according to this model. Higher-value areas in the middle portion should be protected rather than used, under both the authority of sectoral laws and the Nature Conservancy Act. And areas of highest value—the top of the pyramid—should warrant application of the Nature Conservancy Act, which generally meant creation of nature reserves and national parks (Naturvårdsverket 1990, 37). The strategy had one basic rule, according to *Natur '90*: “During all land and water use, consideration shall be taken for the natural and cultural environment within all regions of activity—a fundamental rule for all activities” (Naturvårdsverket 1990, 38). Applied to Swedish forestry, this meant preservation of biological diversity, maintenance of the forestland’s productive capacity and hydrological balance, and protection of a greater total area and variety of forest areas, particularly outside of the mountainous regions (Naturvårdsverket 1990, 43).

VI. The Environmental Legislation of 1991

Natur '90 described the three tiers in its pyramid model as “contribution levels” (Naturvårdsverket 1990, 36), but did not actually elaborate “who” or “what” contributes at each level, nor in what amount or proportion. Given that SEPA prepared the document as a framework for the agency’s nature conservation work during the 1990s (Naturvårdsverket 1990, 3), financial discussions in the text mainly focused on projected agency outlays for the coming years, and intergovernmental spheres of authority (Naturvårdsverket 1990, 70-73, 80). Nonetheless, reliance on the sectoral responsibility at the base of the model implied a larger private responsibility, while the upper part of the pyramid implied greater state involvement—and thus financial support—accompanying the Nature Conservancy Act. And this was indeed the substance of language in the government’s second major set of environ-

Figure 1. How environmental conservation and management with natural resources can be achieved, according to *Natur '90*



For ordinary activities (1), good management with natural resources and environmental conservation should be realized within all types of activities, foremost by taking careful consideration of natural values.

In areas with higher values (2), management of natural resources should be characterized by preservation rather than use.

Protection of habitats and species should be realized with support of the Nature Conservancy Act and Environmental Protection Act, and others, but also be expressed in the sectoral land management laws. Agricultural landscapes are protected by special agreements with help from the appropriation for nature conservation in the agricultural landscape (NOLA). In this way, natural resource management and environmental conservation should be favored with general protection measures and conservation according to agreements.

Areas with particularly high values (3) should be protected by special protection and conservation measures with support of the Nature Conservancy Act.

[Translator's note: The numbers in parentheses within the above text do not appear within the original diagram. The bracketed numbers to the left of the diagram have been inserted to show the apparent correspondence between text and figure. Also, the positioning of the paragraphs above, and the shading of the final paragraph, match the original.]

Translated from: Naturvårdsverket 1990, 37.
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mental legislation, *En god livsmiljö* (Prop. 1990/91:90). As that bill proposed, the pyramid's first level is "the fundamental and in the long term most important...Here responsibility and costs lie foremost on commercial practitioners within the different social sectors that use nature in their activities" (Prop. 1990/91:90, 378). And at this level, "decisions about nature consideration and impact analyses of land use methods are important tools in the work to protect the biological diversity" (Prop. 1990/91:90, 379). The second level requires "special contributions for care and management," including direct economic support or application of a general species or habitat protection. "Responsibility and costs...are shared between the state, local municipality, and the affected social activities" (Prop. 1990/91:90, 379). The higher level "includes among other things the nature types and species that, due to their sensitivity, only tolerate a little or no human influence, and therefore demand a more or less complete protection with support of the Nature Conservancy Act," where the costs rest primarily with the state (Prop. 1990/91:90, 379). Yet the legislation emphasized that creation of national parks, nature reserves, and other areas under the Nature Conservancy Act "can, however, never alone meet the overall objective for nature conservation...Nature consideration and ecological adjustment of social activities is therefore of decisive importance for meeting the goal" (Prop. 1990/91:90, 377).

Much like its 1988 predecessor, *En god livsmiljö* was a comprehensive proposal for a wide range of environmental action. Nearly 600 pages long, the bill's table of contents alone stretches over seven pages (Prop. 1990/91:90, 578-585). Among the bill's goals: "Increased sectoral responsibility and increased decentralization in a wide sense to obtain a broad establishment of the environmental work. This means personal responsibility, the companies' and local municipalities' contributions, as well as participation by government agencies within all social sectors" (Prop. 1990/91:90, 13). Under the heading "Natural resources and nature conservation" the legislation declared, "A lasting, sustainable development requires that governmental authorities and companies that operate in all social sectors take responsibility for and pay for the necessary environmental work that is a natural part of the operations. The government intends to strengthen the sectoral authorities' responsibility in these areas" (Prop. 1990/91:90, 37). As expected, the legislation did endorse the habitat protection proposal in the earlier report from the review of the Nature Conservancy Act, but the bill also tried to distinguish more clearly the

relationship between the new provision and the existing sectoral legislation governing forestry and agriculture:

It, though, should be emphasized that the new form of protection shall be applied in the cases when a general protection is desirable and when it is possible to clearly survey the protected object. As pointed out by the National Board of Forestry, it is necessary that the habitats meet certain requirements for ecological stability. Such nature conservation problems that more generally depend on silvicultural or agricultural methods ought in the first place be solved by application of the regulations about nature consideration in the Forestry Act and the Agricultural Land Management Act. (Prop. 1990/91:90, 393)

En god livsmiljö also endorsed the idea that NBF should have authority to survey and institute protected areas under the habitat protection proposal.

In working with the new protection, the forestry authorities must under all circumstances play an important role. The County Forestry Boards have an intimate knowledge of the forestry environments and close contact with the landowners. Moreover, the forest habitats that should be protected are already in part included in the nature consideration regulations issued under §21 of the Forestry Act. Convincing reasons support the idea that the County Forestry Boards have the task when it is necessary to decide in individual cases about the habitat protection's extent regarding forestland. (Prop. 1990/91:90, 395)

Since most of the habitats would fall within the scope of §21, potential compensation which the government would be obligated to pay for the larger forest areas beyond the scope of that section would "probably be limited" (Prop. 1990/91:90, 395).

The actual types of habitats to be protected under the new provision remained to be worked out by SEPA, "in consultation with other affected governmental authorities" (Prop. 1990/91:90, 394). Later, the line between the legislation and the sectoral responsibility established under §21 of the Forestry Act again became a sticking point. Even before then, however, parliamentary consideration of *En god livsmiljö* prompted one of the most unusual debates in the history of the environmental conflict over contemporary Swedish forestry practices.

Sharing the outlook of its 1988 predecessor, *En god livsmiljö* endorsed the OECD's polluter-pays principle (or "PPP," OECD 1975). "The responsibility to improve the environment rests with all of us. The principle that the polluter pays applies to companies, government authorities, and individuals and includes all activities. Application of that principle shall be developed further" (Prop. 1990/91:90, 13). Many of the proposals of *En god livsmiljö* involved precisely the types of activities for which pollution fees seem most applicable, such as industrial

discharges, potentially hazardous chemicals, motor oils, and gasoline (Prop. 1990/91:90, 3-4, 80-98, 226-282). Sweden had actually begun to levy a beverage container tax in 1973, though most of the country's roughly one dozen environmental taxes dated from the mid- to late 1980s (Bohm 1994, 58-59). In 1990, a government investigatory commission had issued a massive report reviewing the potential to enact additional environmental charges (SOU 1990:59). Nothing, though, in the 1991 proposition's text ruled out application of the polluter-pays principle to forestry practices—especially since the bill explicitly supported using the principle within “all activities.”

Not long before, a short section of *Natur '90* had reviewed how the principle had worked in Sweden up to that time. Although PPP had originally applied only to resources such as air and water, its interpretation had widened over the years to cover administrative costs and repair of environmental damages (Naturvårdsverket 1990, 99). Yet a certain distinction remained. “If PPP within *environmental protection* has foremost involved who shall pay for different measures, the equivalent discussion within *nature conservation* has most concerned the extent of limitations that different activities shall tolerate with the aim of avoiding different types of nature destruction” (Naturvårdsverket 1990, 99; italics in original). After reviewing the potential compensation costs connected with the proposed habitat protection provision for the Nature Conservancy Act, *Natur '90* suggested an evaluation of additional financial resources, including application of the polluter-pays principle (Naturvårdsverket 1990, 101).

In a strong reaffirmation of sectoral environmental responsibility, the Riksdag's Agriculture Committee, which reviewed the environmental legislation, stressed that governmental financial support for nature conservation will always be limited. “Even in this area is it thus important to create a suitable and appropriate division of the responsibility between society and the individual,” the committee report stated. “The responsibility to secure biological diversity and genetic variation may, according to the committee's opinion, not be limited to being a question of the state's economic resources for financial compensation, etc.” (JoU 1990/91:30, 255). And the committee echoed *Natur '90* in suggesting a further inquiry regarding application of the polluter-pays principle to Swedish forestry:

According to the so-called sectoral principle, every sector shall take responsibility for its environmental and nature conservation within the framework for its activities. Paying heed to the demands of nature conservation and biological diversity requires, as the committee

earlier has emphasized, that the landowners and the companies accept their part of the economic responsibility to secure areas worthy of protection. As the so-called polluter-pays principle is applied in connection with acidification, an equivalent principle should be formulated, where management of nature and the biological diversity becomes a normal part of activities and in principle does not require state financial support. The government ought, therefore, to investigate more closely how such a principle should be applied regarding agriculture, forestry, and commercial fishery. The government ought, further, to investigate which costs can result from the demands of biological diversity. This can for forestry's part occur within the framework of the forestry policy review committee's work... (JoU 1990/91:30, 255)

Instead of requesting a formal governmental review commission to evaluate the issue, in June 1991 Environment and Energy Minister Dahl assembled an inter-departmental working group. She also requested a final report before the end of the year, in order that the forestry policy review committee and SEPA could make use of the findings in their ongoing work (Miljödepartementet 1991, 132).

The group met the relatively short deadline imposed by its directive. However, the final report, *Naturvårdshänsyn och de areella näringarna* (Ds 1991:87), deliberately avoided making explicit recommendations, claiming such fundamental issues required parliamentary representation to review. Instead, the report described a number of questions the Riksdag would need to examine in order to reach such a decision, explaining how current Swedish law and regulations affected each subject (Ds 1991:87, 97-98). The phrase "polluter-pays" refers to a polluter, and had been previously applied in the regulation of environmentally dangerous industrial emissions, the report noted, but not as a basis for consideration of nature conservation within agriculture and forestry (Ds 1991:87, 37-39, 99). Were that to occur, a significant limitation would arise:

Consideration of nature conservation in agriculture and forestry can mean that a land area can be used not at all, or used less actively, than what would otherwise be possible, that is to say that the work activity is limited in some fashion, or that the user employs methods that do not produce so high a yield as would otherwise occur. The methods that can be demanded of the user to maintain the biological diversity can, in certain cases, mean that current land use is restricted and that the compensation question therefore arises. The fundamental compensation regulations in the Nature Conservancy Act mean, of course, that only a certain level of nature conservation consideration can be demanded of a landowner without compensation. (Ds 1991:87, 99-100)

A basic difference between industrial enterprises and forestry, the report indicated, is that Swedish law requires certain silvicultural activities. On the other hand, potentially harmful industrial activities, regulated by the national pollution preven-

tion legislation, may not occur without a proper permit. And even those that do not require formal permission still must tolerate emission limits, for example, without the right of compensation for restrictions. This difference—reflected in the compensation provision of the Nature Conservancy Act—is decisive, even if one expands the idea of the polluter-pays principle to include the concept of a “user-pays” variant (Ds 1991:87, 100). “The compensation regulations mean, therefore, that the principle that the polluter or the user pays in every case cannot be applied as an obligation for forest owners or farmers to themselves be responsible for such harm that is compensated for according to the Nature Conservancy Act’s regulations” (Ds 1991:87, 101). As the working group concluded, “The principle that the polluter or the user pays can therefore, according to our opinion, not directly be carried over to the type of environmental influence that foremost involves such use of land and natural resources within forestry or agriculture that can cause conflicts with the interests of nature conservation, if it does not involve contaminations to air, land, or water” (Ds 1991:87, 101).

But if the state could only officially expect landowners to conserve “a certain level” (Ds 1991:87, 100) of natural features, what was that level? According to *Naturvårdshänsyn och de areella näringarna*,

For the individual forest owners and farmers, sectoral responsibility means that they themselves are responsible for the nature-conserving methods that normally can be considered to be included in their activities. The orders that are issued under the Forestry Act and the Agricultural Land Management Act have been prescribed against the background of the sectoral principle and are examples of that. According to the provisions of the Nature Conservancy Act, compensation is payable when the nature-conserving investments become so large that the so-called qualification limit is exceeded. (Ds 1991:87, 105)

The qualification limit is therefore key when applying the Nature Conservancy Act. Politically, the concept now incorporates an explicit parliamentary decision to balance the interests of landowners against those of the general public. But administratively, NBF’s implementation has also substantially influenced the rule’s practical effects. To understand why, it is first necessary to review both the Forestry Act in effect at the time, the 1979 version, and the Nature Conservancy Act. As noted earlier, §21 of the Forestry Act required a basic level of nature conservation:

The government or the agency that the government determines may issue instructions about the consideration that shall be taken in the interests of nature conservation within forest management, such as in questions about the size and layout of clearcuts, stand establishment, retention of groups of trees and the positioning of forest roads.

The authority does not create any authority to issue instructions that are so extensive as to severely handicap current land use. (Skogsvårdslag 1979:429, §21)

Under this authority, NBF had issued the following general instructions to forest owners, followed by seven pages of detailed—but mostly nonbinding—advice regarding their implementation: “Forestry shall be conducted with regard to the forest’s importance for plants and animals, for water balance and local climate as well as for outdoor life and recreation. Consideration shall be taken to valuable cultural environments and landscapes. If unproven silvicultural methods arise, their environmental effects should be investigated before they are implemented in practical use” (SKSFS 1986:6, 40). Yet according to the text of the Forestry Act, none of its instructions here could be so extensive that they would interfere with a landowner’s ongoing forestry practices. It was simply not possible under the powers granted by the Forestry Act, since that law provides NBF with no authority to pay compensation were the Board to issue more extensive instructions for landowners (BoU 1986/87:4, 19).

But that is only the beginning. As §4 of the Forestry Act of 1979 read, “This law shall not be applied to the extent that it contradicts instructions that have been issued with support of the Nature Conservancy Act (1964:822) or another law” (Skogsvårdslag 1979:429, §4). The various provisions of the Nature Conservancy Act allowed development of national parks, nature reserves, and other formally protected areas, for which the government would pay landowners, either to purchase properties outright or to maintain desirable characteristics by, for example, limiting commercial timber harvests. Section 26 of the law permitted financial compensation. This section states, “If instructions [issued under several sections of the law] cause current land use in an affected part of the property to be severely handicapped or that land is claimed, the property owner and holder of a special right to the property are entitled to compensation by the state for the harm they suffer as a result” (Naturvårdslag 1964:822, §26). Note the difference in the language: the Forestry Act referred (and still refers) to actions that “severely handicap current land use” of a property, while the Nature Conservancy Act adds a qualifier, “in an affected part of the property.” This addition (in Swedish, five words: *inom berörd del av fastigheten*) has made a crucial difference in determining the level of nature conservation consideration that the Swedish state can formally require forest owners to apply. This text reduces the size of the economic unit against which a potential nature conserva-

tion area—where ownership rights may be limited—shall be compared, in the process to determine whether the state must pay financial compensation for the limitation. The result is to significantly increase the chance that the government must, in fact, offer compensation. From the start it was a controversial change, and advocates for nature conservation have called for its revision or repeal on a number of occasions, precisely because of the fundamental limit this language imposes.

Contemporary Swedish statutory language codifying the right to compensation when the state takes property for public purposes dates to 1972. That year, in a comprehensive legal reform, the Riksdag changed the text in a number of environmental and land-use laws, including the Nature Conservancy Act, to more consistently protect private property in circumstances involving state action. This reform introduced the words “severely handicap current land use,” a phrase eventually also added to the Forestry Act (BoU 1986/87:1, 144-145; BoU 1986/87:4, 14-15). This language remained unchanged in the Nature Conservancy Act until 1987, when the Riksdag passed a sweeping, new Planning and Building Law (Plan- och bygglag 1987:383). But to ensure passage of that legislation, the ruling Social Democratic Party had to compromise with the Center Party, traditionally the representative of Swedish agriculture (Petersson 1994, 142), regarding the financial compensation language in the bill (Algotsson 1996, 309). The Riksdag’s Agriculture Committee thus inserted the phrase “in an affected part of the property” (BoU 1986/87:1, 155). Accompanying legislation, designed to coordinate the statutory language of existing legislation with the Planning and Building Law, added the same language to §26 of the Nature Conservancy Act. But the committee did not harmonize the Forestry Act with the new construction, expecting no problem in keeping the existing regulations (BoU 1986/87:4, 19).

In essence, the Agriculture Committee saw no need to revise the Forestry Act to match the new Planning and Building Law because the forestry regulations already had a restricted scope. The Forestry Act’s guidelines to forest owners at the time, issued as part of its general instructions, stipulated the following: “The consideration for nature conservation can demand that low-productive land and such smaller productive areas that are of little economic importance are exempted from certain silvicultural measures, for example final harvest. Smaller areas can be considered to be of a size 0.5–1.0 hectare, among other things depending on their location in the country” (SKSFS 1986:6, 41). As the authors of *Naturvårdshänsyn och de areella näringarna* noted,

The question of how much consideration of nature conservation and care for cultural relics that, according to the current regulations, is included within the compensation-free area has in the existing application of the Forestry Act's nature consideration regulations been characterized by a certain carefulness. An opinion that not seldom is conveyed is that there is space for more consideration of nature conservation and care for cultural relics, within the compensation-free area than what is reflected in the forestry authorities' recommendations and decisions. (Ds 1991:87, 60)

Another author noted how the changes that accompanied the Planning and Building Law "have if anything only been a confirmation of a viewpoint that had long existed within the forestry administration. A viewpoint that had grown from its 'own' legal development since the middle of the 1970s" (Darpö 1991, 94-95). NBF's administrative actions had informally set an absolute financial limit of roughly 20,000 kronor for the value of required nature conservation, regardless of the actual harvest size (Darpö 1991, 96).

After passage of the Planning and Building Law and the change in statutory compensation terminology that the new legislation brought forth, issuing orders under authority of the Nature Conservancy Act to require significant nature conservation became more complicated. As one commentator noted, the 1987 legislation represented an overall strengthening of individual property rights in comparison to the legal reforms of 1972 (Bengtsson 1991, 64). With the previous construction, in Swedish legal practice the general rule to determine whether or not an activity "severely handicapped current land use" had depended on a comparison of the activity's harm against the claimant's "economic unit," such as the total value of a harvest contract or an entire property (Ds 1991:87, 63; BoU 1986/87:1, 150). With the new formulation, in contrast, the comparison depended on "a treatment unit, that is to say a forest stand or several smaller stands, that are intended to be treated with the same measure simultaneously. The stand division may in this connection be determined according to normal professional standards" (BoU 1986/87:1, 150). And with this new form of reference came a new qualification limit, 10 percent of the property value, so long as the amount was not large in strictly monetary terms. When the absolute value was higher, a relatively smaller percentage would apply for the property owner. (BoU 1986/87:1, 150-151). This in effect meant the qualification limit for larger forestry companies was somewhat higher than for owners of small forests. "Large forestry concerns normally have larger stands and harvesting units than private forest owners. What appears trifling for a forest company is often

a large encroachment for a private forest owner” (Ds 1991:87, 151). Whatever the case, once the degree of state interference crossed that level, the property owner (or holder of a right to the property in question, such as a logging company with the right to harvest) could claim the entire sum, not just the amount over the limit—a practice consistent with other legislation except, notably, one provision of the Planning and Building Law (Ds 1991:87, 112-113).

Reducing the size of the total area against which a proposed nature conservation tract must be measured substantially increases the chances for exceeding the qualification limit, which the Agriculture Committee recognized. “It is in the nature of the thing that the treatment unit typically seen is a lesser unit than the economic unit, even if there obviously from time to time can be smaller forest properties that consist of only one or a few treatment units. A prohibition against tree cutting that affects a small treatment unit can therefore often mean that the qualification limit for compensation is crossed” (BoU 1986/87:4, 16). The parliament was hardly unanimous in supporting the change, however. The Liberal Party in particular fought against altering the compensation regulation in the Nature Conservancy Act. Although part of the conservative political block in the Riksdag, the party sought to distinguish itself as a supporter of nature conservation (Algotsson 1996, 309-325). In an unsuccessful motion in connection with the 1988 environmental legislation, for example, the party requested a review of the Nature Conservancy Act’s ability to protect threatened species. This motion argued that “there exists a large gap between on the one side the Nature Conservancy Act’s protective institutions and on the other side the possibilities for habitat protection in the Nature Conservancy Act and the Forestry Act. This gap is a very obstructive factor in protecting threatened or rare species. With the new compensation regulations in the Planning and Building Law and other laws, the gap can be disastrously large” (JoU 1987/88:5, 26).

Indeed, according to one County Administrative Board’s environmental bureau, landowners learned how to avoid county action using the authority of the Nature Conservancy Act. “The landowners’ knowledge that our demand for restrictions shall be related to ‘an affected area of the property’ means that when a nature conservation object is affected, then one limits the measure to the sensitive area worth protecting, so that possibilities to demand restrictions from the County Administrative Board are limited” (Simonsson 1989, 3). Nonetheless, the investigator who prepared *Översyn av naturvårdslagen m.m.*—the 1990 comprehensive review of the Nature Conservancy Act—declined to include the compensation regulation

within the scope of the investigation. As he wrote, “If the balancing between interests of the property owners and nature conservation that the Riksdag has made with the new compensation regulations should lead to nature conservation costing more than earlier, one must according to the investigation expect that the Riksdag is prepared to grant more means for that purpose” (SOU 1990:38, 81-82). And the 1991 environmental proposition, *En god livsmiljö*, also declined to propose any changes, stating that the Riksdag had considered the issue sufficiently in 1987 (Prop. 1990/91:90, 399). The legislation, though, proposed to allow compensation where necessary under §26 of the Nature Conservancy Act for the proposed habitat protection provision (Prop. 1990/91:90, 394).

Given the existing legal structure, together with the clear political unwillingness to revise the system so soon after the 1987 changes, the authors of *Naturvårdshänsyn och de areella näringarna* were all but forced to conclude that the polluter-pays principle could have no direct application within Swedish forestry, except in very limited circumstances, as when forestry activities generate direct discharges to the land, water, or air (Ds 1991:87, 99). Even their attempt to evaluate whether or not the qualification limit could be increased—in light of the Agriculture Committee’s statement that nature conservation should “not be limited to being a question of the state’s economic resources for financial compensation etc.” (JoU 1990/91:30, 255)—led them to conclude that the simplest method would be a return to the pre-1987 legal construction (Ds 1991:87, 118-125). On a positive note, though, they did conclude that many of the small habitats the habitat legislation sought to protect would fall under the qualification limit. “The cost to protect small habitats within ordinary production activities ought, to a large part, be able to be included within the framework for the scope of the qualification limit, and thus constitute a part of the sectoral responsibility. That often happens already today voluntarily” (Ds 1991:87, 120).

VII. The Forestry Policy Review Committee

Though 1991 was a landmark year for Swedish environmental policy, other events far overshadowed those accomplishments. Sweden that year was a nation sliding ever deeper into an economic crisis, of a breadth and magnitude unseen since the Great Depression. An inflationary wage policy, together with credit market deregulation, had fueled a huge real estate and building boom during the 1980s. Unfortunately, it burst when international demand and domestic consumption

slowed during the worldwide recession of the early 1990s. This fateful combination of unfavorable economic events caused Swedish consumer demand and industrial output to fall precipitously. As a result, social insurance payments ballooned as unemployment rose to staggering levels, producing huge government deficits. International currency speculation also eventually forced the government to intervene in credit markets to defend the Swedish krona against devaluation, and a financial crisis required billions of kronor to rescue major banks and thereby prevent a collapse of the nation's banking system (Lindbeck et al. 1994, 1-13; Petersson 1994, 7-12). One political consequence of this serious economic deterioration was victory for a four-party conservative coalition in the autumn 1991 general election, ousting the Social Democratic Party, which had held power for most of the post-World War II period, including the three consecutive terms (nine years) following the 1982 election. The Green Party also failed to achieve enough votes to retain its representation (Larsson 1999, 318).

For the forestry policy review committee, the consequence of this power shift was a reconstitution under the leadership of a new chairman, Sven Erik Lorentzon, who had previously served as the committee's Conservative Party representative (SOU 1992:76, 3-4). The former chairman had died in July, and the post had remained unfilled for several months (SOU 1992:76, 3). A supplemental directive from the new government also adjusted the focus of the committee's work (Dir. 1991:99). In line with new policies stressing deregulation, the conservative government had proposed a new corporate tax policy, which included abolition of the forest preservation duty. The result would be a substantial reduction in the funding to subsidize silvicultural activities, effective in mid-1992, part of the new government's general plan to improve the Swedish business climate, which the government expected would also aid the forestry sector (Dir. 1991:99, 13-14). The new directive to the review committee was straightforward: "The committee's work regarding legislative issues shall aim for a reduced regulation of forestry. This promotes a forestry rich in variation while reducing bureaucracy" (Dir. 1991:99, 14). Were the committee to believe that some activity now financed by the forest preservation duty should remain, the committee should find another funding source. But in that case, the committee "should especially observe the fundamental principle that characterizes the government's policy, namely an increased practical and economic acceptance of responsibility on the part of business in exchange for reduced economic and administrative impositions" (Dir. 1991:99, 14).

The supplemental directive, though, did not alter the original directive's instruction to formulate an environmental goal for Swedish forestry. Consequently, the forestry policy review committee now faced a more complicated task. The sectoral responsibility principle from the national environmental legislation of 1988, as amplified and clarified by the 1991 proposition, still guided development of the goal, yet now under a significantly different set of political and economic circumstances. The new government's call for deregulation limited the review committee's ability to require nature conservation by law, while at the same time the disappearance of funding from the forest preservation duty—hundreds of millions of kronor annually (Ekelund and Hamilton 2001, 248)—all but eliminated the opportunity to offer major financial incentives as an alternative. The political compromise which produced the Planning and Building Law also meant forest owners themselves could not be directly charged for nature conservation, consistent with application of the polluter-pays principle within other business sectors. And in the background, the broadening economic crisis diverted not only financial resources from environmental questions, but also public attention. The proportion of voters in the 1991 election who mentioned the environment as an important election question was only half of the corresponding 1988 figure (Bennulf 1994, 75).

In the midst of these events, NBF issued the first report from its GRÖNSKA project, created to evaluate actual implementation of the Forestry Act's §21 (Skogsstyrelsen 1991). The study inventoried seven groups of possible nature conservation measures required at 564 potential harvest sites of varying sizes across the country, selected from the pre-harvest reports filed with the local County Forestry Board offices. Of the original sample, harvests actually occurred at 411 sites, allowing post-harvest evaluation of 1,311 separate actions taken according to the §21 regulations, using a three-level scale: clearly better than the legal requirements, sufficient to meet the regulations, or insufficient (Skogsstyrelsen 1991, 7-13). The highest overall levels occurred with harvest size and location planning in relation to the terrain and surrounding land, where 99 percent of occurrences received at least a sufficient grade. Also, 89 percent of the measures in connection with the regulations protecting recreational and residential areas were rated sufficient or better, as were 78 percent of measures related to harvest operations (such as post-harvest clearing and avoiding soil compaction). But these generally were not necessary on most of the harvested hectares. In contrast, some consideration of small, sensitive habitats, and groups of living and dead trees important for animals (including nesting trees and

valuable broadleaf species), was necessary on the vast majority of hectares harvested. Yet 46 percent of the actions motivated by the small habitat regulations received grades of insufficient; the figure was 44 percent for the nesting tree category (Skogsstyrelsen 1991, 15-26), results similar to Eckerberg (1986, 1990). "The study shows that at least sufficient consideration of nature conservation interests is taken for two-thirds of the affected functions on the harvested area. Often a more important regard is taken by avoiding sensitive areas when choosing a final harvest tract. We have no idea about how extensive such consideration is," the report commented (Skogsstyrelsen 1991, 28). And the recommendations for improvement were clear and succinct:

Measures that favor scientific nature conservation should have priority. Ongoing education initiatives should be carried further. The inventories of wetland forests and key habitats should accelerate. The regulations for protection of important key habitats, decided by the Riksdagen in spring of 1991, should be developed into a practical instrument that can complement the Forestry Act's nature consideration regulations, especially when the demands for nature consideration are particularly large. With research support, production forestry should develop silvicultural methods that are suited to the protection needs of important natural values. (Skogsstyrelsen 1991, 30)

The suggestion that scientific nature conservation should have priority was important, since even among the areas that enjoyed some type of formal protection under the Nature Conservancy Act, scientific factors—such as biodiversity, range of habitats, and rarity—were not always the leading criteria for their creation. Rather, "political" criteria, focusing on human values such as scenery, recreation, and educational merit, had been about equally significant in determining which areas to protect (Götmark and Nilsson 1992). One consequence was a skewed representation of natural variety, with very large alpine regions enjoying formal protection under the Nature Conservancy Act, though only small areas of river landscapes, for example, and a widely varying geographic distribution (Nilsson and Götmark 1992).

The GRÖNSKA results came after the forestry policy review committee had completed a year of work. The supplementary directive had extended the deadline for the view committee's final report by two months, from 1 July to 1 September 1992 (Dir. 1991:99, 15). Already by early spring of that year, the committee members were reviewing a draft proposal for the environmental goal, prepared by committee member Per-Ove Bäckström, professor of silviculture at the Swedish University of Agricultural Sciences in Umeå (Bäckström 1992a). "The Swedish forestry policy is characterized by a constant aspiration to improve the forest management and forest

condition in the country,” the memo begins (Bäckström 1992a, 1). An expected increase in standing forest volume over the next 40 years, a new possibility for expanding Sweden’s total forestland through agricultural conversions, and a higher expected paper recycling rate in the future all indicated that the nation had substantial freedom to decide the future direction for national forestry policy (Bäckström 1992a, 1-2). Referring to the original committee directive’s statements—quoting in particular the agriculture minister’s belief that forestry constitutes “the backbone of the Swedish national economy” (SOU 1992:76, 7) and thus that one starting point for Swedish forestry “should be that the long-term sustainability of the natural resources can be maintained and that species and nature types can be protected” (Dir. 1990:47, 8)—Bäckström wrote, “A rough summary of the government’s directive would be that the future forestry both shall improve our economy and successfully manage the protection of species and ecosystems” (Bäckström 1992a, 5).

There were important factors in Sweden to consider, however. Among these were not just the economic importance of the forestry sector, but also the overall share of forestland and its ownership structure, plus public access and use of the forest resources. Large forest reserves could be one way to achieve the necessary protection; another could be to modify silvicultural methods, or encourage diversification of their intensity (Bäckström 1992a, 6). The result of this analysis was a set of three possible alternative uses. The first—“Forest for production and for nature and environmental protection are separate areas, through set-asides of large nature reserves”—was impractical under Swedish conditions, according to the draft memorandum. The existing concentration of forest reserves and national parks in the northern mountains would require large, complementary land purchases along the coast and in middle and southern Sweden, precisely where property was more expensive and more likely to be privately owned. The right of public access (Paulsson 1978; Kolby 1988) would also restrict the intensity of land use on the remaining, productive forestland, since the public would want accommodations for recreational activities, negating the potential advantage of separate uses (Bäckström 1992a, 6-7).

The second alternative, “The forest is used with different intensity with consideration for the land’s productive capacity and distance to factories and markets,” had the opposite problem. Since middle and southern Swedish forests are closer to markets as well as the sawmills and pulp factories, those forests would be the least likely candidates for creation of reserves or parks, yet should be the most likely instead, given the current distribution of parks and reserves. The second alternative

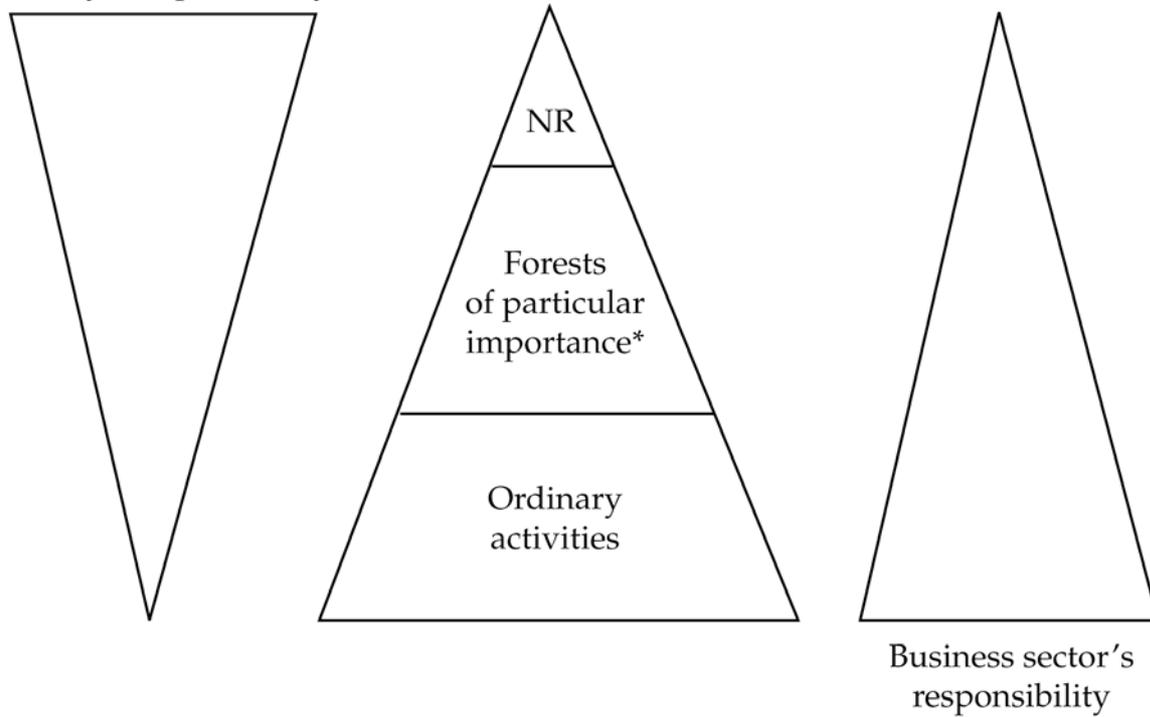
also required an unlikely price and demand stability over extended periods to succeed (Bäckström 1992a, 7-8).

The draft's third alternative ultimately became the heart of the new forestry law's environmental goal: "The forest is used with aim toward high production and environmental consideration over the entire forestland area" (Bäckström 1992a, 6). This implied that "in using the forest one places as much weight on the production goal as on the environmental goal" (Bäckström 1992a, 8). Even this alternative required additional national parks and nature reserves, Bäckström wrote, but not to the same degree as the other alternatives. "The extent of the protected area in the country depends on what protection one wants to reach and the protection that can be reached through a responsible use of areas outside the protected areas" (Bäckström 1992a, 8). The structure of Swedish forest ownership could also contribute to reaching the overall goal, though was not by itself sufficient: "Many small owners with varying goals for their forestry naturally create, no doubt, a variation in the forest landscape that promotes biological diversity. That obviously does not imply, though, that the necessary environmental protection is reached, since the goals for forestry within the individual property can be changed" (Bäckström 1992a, 8).

Bäckström's text also directly adopted the three levels of responsibility for nature conservation originally developed in SEPA's *Natur '90* (Bäckström 1992a, 4). The draft description of Swedish forestry's sectoral responsibility, jointly prepared by the head of SEPA, Rolf Annerberg, and the newly-appointed head of NBF, Hans Ekelund—both of whom had joined the forestry policy review committee as experts in 1991—also reflected this approach (Figure 2) (Annerberg and Ekelund 1992). As the Riksdag's Agriculture Committee had noted in its review of the 1991 environmental proposition, for most of the land area, responsibility and costs mainly lie with commercial practitioners who use the natural resources as part of their activities, Annerberg and Ekelund wrote. Otherwise, at the top of the pyramid, "The objects most worthy of protection, which include nature types and contain species that are so sensitive that they do not tolerate other than a slight degree of human influence, demand a more or less complete protection with support of the Nature Conservancy Act...The responsibility and the costs at this level lie mainly with the state" (Annerberg and Ekelund 1992, 4). For the area in the middle, though, it was the duty of the forestry sector to fund methods that aim to support biological diversity, while the local government should finance measures to promote outdoor recreation (Annerberg and Ekelund 1992, 4-5).

Figure 2. Production forestry's sectoral responsibility for the environment

Society's responsibility



*) Forests of particular importance for biological diversity, recreation, and outdoor activities, etc.

The relative responsibility — including the cost responsibility — for the nature conservation measures in the forest.

[Translator's note: "NR" = "nature reserves"]

Translated from: Annerberg and Ekelund 1992, 5.

But how much forestland is, or should be, at the top? That is, how much forestland should the new forestry policy aim to reserve, free from the influence of normal production practices? If, as Bäckström wrote, the answer depends on what one wants to achieve, and what “responsible” use in other land areas can actually accomplish, answering this question in effect becomes a judgment about the possibilities under the new policy that the committee would soon recommend to the government. A lower share at the top of the pyramid essentially would place even greater weight on actions in the levels below—by individual forest owners, forestry companies, loggers, and others—to achieve the overall goals of the policy. A larger point on the pyramid would, of course, indicate the opposite. As Bäckström had also written in the same draft, “Criteria for how large areas or share of a total area that under different conditions must be set-aside to reach a sufficient protection are lacking today. As far as Sweden is concerned, though, it is considered to concern 10-30 percent of the land area”—a range difficult to apply, given the country’s long history of economic forest use and its relative lack of state-owned forests (Bäckström 1992a, 6). In fact, determining an answer to this question revealed a significant disagreement between members of the forestry policy review committee, where advocates for nature conservation backed a larger figure than production forestry interests were willing to support.

The debate initially centered on the conclusions from a special report that the committee had requested, to evaluate the potential need for new forest reserves to preserve biological diversity (Zackrisson, Liljelund, and Pettersson 1992). The report calculated the preservation needs for five separate forest types within each of the National Forest Inventory’s four geographic areas. The analysis concluded that so long as common Swedish silvicultural practices remained in use, with the given level of nature conservation as another condition, roughly 15 percent of the productive forestland below the mountainous forests in the north would be necessary in total (Zackrisson, Liljelund, and Pettersson 1992, 10). All of the qualifiers in that statement are important. The analysis assumed that other circumstances would remain basically unchanged. And the estimate involved forestland below a very specific limit that the administrative agency for the state-owned forests, Domänverket, had earlier developed to demarcate the most difficult and costly forestland to regenerate, which was generally high in the mountains (Skogsstyrelsen 1990, 34; Håkansson 2000, 428).

Since most of Sweden's national parks and nature reserves were in the northern, mountainous regions—Sweden's two northernmost counties contained roughly three-quarters of the total park and reserve area, based on data from 1987 (Skogsstyrelsen 1990, 64)—obtaining 15 percent of the productive forestland from the remainder of the country would be extremely difficult politically and financially. Furthermore, the authors of the special analysis were not convinced that such a strategy would be optimal. "The most important reason is that biological diversity is a very important component in all forest ecosystems. A sustainable forestry requires a wider view of the sustainability idea where not just the forest's capacity to produce timber is considered," the report declared. And it added a more practical note. In Sweden it would be hard to find such large regions of forests which still retained natural characteristics worth saving (Zackrisson, Liljelund, and Pettersson 1992, 10). On the other hand, widespread adoption of alternative silvicultural techniques, such as leaving a larger volume of wood after harvest, and establishing a higher share of deciduous forest, could reduce the anticipated need for reserves by more than half (Zackrisson, Liljelund, and Pettersson 1992, 11-14).

This was an appealing idea, particularly in the stringent budgetary environment brought on by the national economic crisis. Some elements of production forests would need to change, to create a mosaic of environments that would support a range of species throughout the landscape. "So that a production forest landscape could be able to retain the values of the natural forest," Bäckström wrote in a follow-up to his earlier memorandum, "it is important to pay attention to the need for dead wood and old trees, that areas with different ages and species compositions are created, as well as areas with refuge characteristics are saved or used in a way that imitates the processes of forest refuges as much as possible" (Bäckström 1992b, 3-4). This, though, did not entirely obviate the need to increase the total area of forest reserves. Some rare or threatened animal and plant species would still need the higher protection from human disturbance the reserves offer. Rather, the concept had two advantages: it could reduce the overall reserve requirement, and possibly help maintain forest biological diversity over a wider area:

Old trees and dead trees that are important for the survival of many plants and animals cannot be preserved in the production forest, but must be achieved or created in another way. Here, set-asides of nature reserves where the forest is left for free development are an important means. For the future, it is important that more forest than what is set-aside today be preserved as nature reserves. How much forestland must be set-aside as nature reserves, so that an acceptable

protection for species and habitats is reached, we do not know with certainty. In a special analysis for the forestry policy review committee, it is proposed that 15 percent of the forestland be set-aside as reserves, if special measures are not taken during use of the forest. Society has a responsibility for nature reserves, which means that land that is converted to reserves must be paid for or compensated for in another way.

To set-aside reserves is naturally an effective form to maintain biological diversity. The question is, though, if a better consideration of the demands for biological diversity over the whole area of production forest is not a more effective form of nature conservation. That would certainly also reduce the demands for the share of land area that needs to be set-aside in the form of reserves. (Bäckström 1992b, 5)

Answering that question depended on the actions of forest owners themselves, guided by the regulations under the Forestry Act's §21 and the level of knowledge regarding more environmentally sensitive silvicultural methods, Bäckström wrote. This, unfortunately, was not yet as well developed as for the traditional, even-aged, regulated forestry then most common in Sweden (Bäckström 1992b, 5-6). "The research that has been pursued and is being pursued within the field, however, is yielding a quickly increasing knowledge that the entire time influences and will influence the opinion regarding which measures are most effective" (Bäckström 1992b, 7). Consequently, this led Bäckström to conclude that a new environmental goal in the Forestry Act should, among other things, require conscientious attention to biological diversity. "With consideration of the conditions, the forest owner has a responsibility to seek to promote or at least maintain the variation and the biological diversity during the forest's use" (Bäckström 1992b, 7).

Aside from the development of the ideas themselves, there are three important things to note from the text of this memorandum. First, the reference here to the forest reserve analysis speaks of "15 percent of the forestland" as the study group's calculation, absent any other changes in common silvicultural practices. The text of the report had actually said 15 percent of the productive forestland below a specific boundary running through the northern, mountainous forests. The less strict definition, as shown, would include large areas of existing reserves, no matter what the ultimate percentage figure chosen. This textual change carried through right into the forestry policy review committee's final report (SOU 1992:76, 134). Second, this passage implies that a base level of nature reserves would eventually be necessary, insofar as the text indicates that better attention to biodiversity throughout the forests would reduce—but not eliminate—the need for additional reserves. There is some evidence that an attempt to establish a figure for such a base level was a

controversial issue for the committee. A letter from the committee's two representatives of nature conservation organizations, dated in mid-May 1992, refers to a meeting that reviewed a set-aside recommendation of 5 percent of the productive forestland, and which apparently provoked a lively debate. "From a number of experts it was maintained then that the committee lacks scientific evidence for such a description, and therefore it was proposed that the formulation should be struck. That is, according to our opinion, remarkable" (Nyman and von Sydow 1992, 1). As they wrote,

That today's protected area of productive land below the mountainous forests, 0.4 percent, under all circumstances is well under a minimum level to maintain biological diversity ought all on the committee to be in agreement with. Even if protection of biological diversity naturally is a qualitative goal, it is not wrong, according to our opinion, to quantify the goal. Such is done in many other contexts within environmental policy, for example regarding sulfur and carbon dioxide emissions, reductions in pesticide use, etc. etc." (Nyman and von Sydow 1992, 2)

It was incumbent upon those who questioned the scientific basis of a specific goal to point out its weaknesses, "as well as truthfully justify the different methods for judgment here, in contrast to environmental policy in general" (Nyman and von Sydow 1992, 2).

The third, and related, issue in this context is that although the memo suggests landowners alter some of their practices, there is no indication here of just how much forest owners and forestry companies would actually be willing to change. This was an issue that a large group of leading forestry industry representatives addressed for the committee, in a declaration of intentions prepared shortly after Bäckström's draft appeared (Skogsbruket 1992). Noting the pressures of international competition, the group nevertheless agreed that biological diversity and the forestland's productive capacity were critical assets to preserve through sustainable, long-term silvicultural practices (Skogsbruket 1992, 2). Yet in a practical sense there were limits to how far the industry could go:

Against this background it is important to have realistic expectations regarding production forestry's capability, through adjustment and development of silvicultural methods, to protect biological diversity completely. The discussion about so-called "nature-like methods" that resemble the way the forest ecosystem is naturally disturbed—by, for example, fire, storm, insects, and fungi—contains a large measure of wishful thinking. It is impossible to avoid the fact that harvest of timber gives the forest a different structure. In addition, there is the fundamental condition that production forestry always must be so

rational that it is within the boundaries of profitability. (Skogsbruket 1992, 2)

The industry statement agreed that more large and varying forest types must be reserved, but did not suggest any particular amount or percentage of forestland to set aside. Instead, the group wrote that the exact extent was a matter involving both scientific judgment and political priorities, for which a 15-year action plan should be developed (Skogsbruket 1992, 3). In contrast, the statement was clear regarding who should pay for new reserves: "It is society's obvious responsibility to finance this preservation...In the rest of the production forestry landscape, the forest owners are prepared to take responsibility for such nature consideration that today can be seen to be a normal part of continuing land use. Such sectoral responsibility includes substantial costs" (Skogsbruket 1992, 3).

In financial terms, the industry document briefly, and without elaboration, referred to an estimate of between 200 million and 1 billion kronor annually, writing that this figure also includes costs related to the demands of urban populations (presumably meaning forest recreation). But the statement also notes that various other legal restrictions, such as the planning law, imposed additional costs. "The total picture of claims has never been clarified and therefore nor have the costs for the landowners and society" (Skogsbruket 1992, 4). One academic review of the subject published during the period estimated that nature conservation measures reduced forest production roughly 3 percent in northern Sweden, and 4 to 5 percent in the central and southern parts of the country. Reductions of up to 10 percent were possible in forests closest to high population areas (Wilhelmsson 1989a, 1989b). Theoretically, these figures would have meant that annual harvests were roughly 3 to 5 million cubic meters standing volume lower than might otherwise have occurred, given the reported harvest volumes of the period, which had ranged between 52.6 and 64.5 million cubic meters standing volume annually for the years 1979/80 to 1986/87 (Skogsstyrelsen 1990, 121). Whether or not this actually "cost" forest owners real money was difficult to determine, however, in light of the financial uncertainties inherent in forestry, and the potential for additional income from the nature conservation measures themselves, such as better hunting opportunities (Wilhelmsson 1989b, 32-38). Still, the figures were sufficiently strong to conclude, "The 'environmental conservation investments' that are accomplished by production forestry are very extensive. Just the annual cost for 'consideration of nature conservation' in forestry, three quarters of a billion kronor, in this respect places

forestry at the same level, or ahead, of the manufacturing industry in its entirety” (Wilhelmsson 1989b, 39). Another study examined nature conservation-related costs within an administrative unit of an industrial forestry company. The estimated value of foregone timber ranged between 1.6 and 3.1 percent of the total harvest value, depending on the estimated final wood yield, from a lower bound of 60 percent yield up to optimal yield (Thålin 1990).

These figures, though, reflect the actual or potential expenditure of private landowners and forestry companies, or the opportunity costs. Creating more forest reserves would, of course, require some form of collective financing. “Recent political debate has shown a surprising political unwillingness to give priority to resources for this important environmental conservation area,” the industry statement declared. “In a larger context it is a question of relatively limited investments during a limited time” (Skogsbruket 1992, 3). These clearly are not investments that the forest industry alone would be willing to support—the statement in fact was resolute regarding the financial responsibility issue. “We strongly reject a collective financing of reserve purchases through, for example, a foundation supported by special forest preservation duties that the forest owners themselves pay. It is not reasonable that those who own the land and use it responsibly shall pay to take land out of economic use” (Skogsbruket 1992, 3).

That was a specific reference to a proposal from SSNC to retain a portion of the forest preservation duty as a funding source for the purchase of forest reserves (Svenska Naturskyddsföreningen n.d., 5). And as might be expected, the conservation group had a sharp response, from Ulf von Sydow, the organization’s representative on the forestry policy review committee. As he wrote, the industry statement “unfortunately reports no strategies, aside from that if legislation ‘leaves us alone’ then everything will be fine. Under the current Forestry Act it is precisely nature conservation that is deregulated. Here there are no compelling regulations, but everything bases itself on voluntary action. Despite the possibility to show the strength and guarantee of voluntary action, the industry has not been successful...” (von Sydow 1992, 2). The committee was working—in line with the Riksdag’s earlier environmental policy decisions—to establish a framework law that would most strongly affect not those who abide by democratic decisions, he commented, but those who do not:

Obviously the industry does not accept such a perspective on framework legislation, when it says, “the fundamental condition is that

production forestry always must be so rational that it is within the boundaries of profitability." With this formulation one also does not accept the Riksdag's decisions on what costs every social sector itself shall bear. With the formulation of the declaration of intentions, the economy sets the framework and nature gets to satisfy itself with what the economy allows, regardless if that means the goal is reached or not. The industry believes that the economic costs regarding nature consideration, in a broad perspective, today are what one finds reasonable to bear. This is an ecologically insensitive language of economic power that is spoken. (von Sydow 1992, 3)

Furthermore, the industry's statement actually justified the conservation association's proposal to use the forest preservation duty to buy forest reserves, von Sydow noted. "When the industry's declaration of intentions does not create full credibility for the idea that voluntary action meets the goal, the Swedish Society for Nature Conservation sees no other way than to propose means to ensure that the forestry policy moves toward meeting the goal" (von Sydow 1992, 4).

SEPA also thought that the industry statement lacked believability, reporting in its own memorandum "some deficiencies in production forestry's environmental consideration, that will not be remedied by the proposed working methods and measures in the statement of intentions" (Ohlsson 1992, 1). Though this by itself reveals nothing new about the agency's standpoint, in the context the document perhaps stung the most when it described a lack of sufficient ecological knowledge throughout the industry. "This applies to both the forestry authorities and practical forestry. Only in recent years have production forestry and the forestry organization [NBF and the County Forestry Boards] begun to hire specialists in ecology and environmental care. It is not sufficient to have only a few people within Swedish production forestry, but knowledgeable people are needed at all levels" from corporate leadership all the way down to forest workers in the field (Ohlsson 1992, 3). The agency also challenged the industry's refusal to bear the direct costs of new nature reserves. "Due to the connection between production forestry's nature consideration and the reserve needs, it is not obvious that it is society's responsibility to finance all types of preservation and reserves. (When forestry's nature consideration in larger parts of the forestland area is bad, the need for protected regions increases, which to a large part is financed by society.)" (Ohlsson 1992, 5). Furthermore, in spite of the conclusions from the interdepartmental group that had prepared *Naturvårdshänsyn och de areella näringarna*, SEPA still thought the forestry policy review committee should develop a cost-sharing plan based on the user-pays principle, a variant of polluter-pays (Ohlsson 1992, 5). The industry statement had, not surprisingly, also

concluded that the economic compensation principles established in the wake of the Planning and Building Law “have shown themselves to function well and justly” (Skogsbruket 1992, 5). SEPA claimed this perspective “contains a significant element of wishful thinking or ignorance about the actual circumstances” in light of legal and administrative uncertainties following the change, and the lack of precedent-setting court decisions (Ohlsson 1992, 7).

VIII. Implementing the Habitat Protection Law

As the foregoing viewpoints developed during the spring of 1992, another issue arose which also revealed similarly distinct and divergent perspectives, SEPA’s outline of the types of habitats for inclusion under the Nature Conservancy Act’s new habitat protection (Statens Naturvårdsverk 1992c). SEPA had proposed that 12 so-called “Model A” habitat types receive an immediate, general protection through inclusion of their descriptions in the regulations issued under the act. Another 16 “Model B” types of habitats could receive protection after a regional authority had clearly demarcated each individual object (Table 4). And, despite the language in the 1991 environmental proposition allowing NBF to administer the provision on forestland (Prop. 1990/91:90, 395), SEPA nevertheless proposed that the County Administrative Boards should be the responsible local authorities. The County Forestry Boards could assist with the inventory and information for affected landowners (Statens Naturvårdsverk 1992c, 3). “The Swedish Environmental Protection Agency has, during the work of the investigation, found that there are strong reasons to propose an alternative solution which means that one places the responsibility for decision with the County Administrative Boards” (Statens Naturvårdsverk 1992c, 5). The county agencies and SEPA itself had the primary legal obligations to administer the Nature Conservancy Act, the habitat memorandum noted, while the forestry authorities were governed by the Forestry Act. The local municipalities also had related environmental authority, and they should not be eliminated as an important actor in this connection. SEPA proposed “a general discussion about the division of responsibility and sectoral responsibility,” suggesting simpler legal administration so that “landowners should experience the different roles of the authorities as logical” (Statens Naturvårdsverk 1992c, 5-6).

In response, NBF argued that its sectoral responsibility, the connection between the nature consideration regulations and the habitat protection, plus the

Table 4. Habitats proposed by the Swedish Environmental Protection Agency to be included in the Nature Conservancy Act's small habitat protection, June 1992

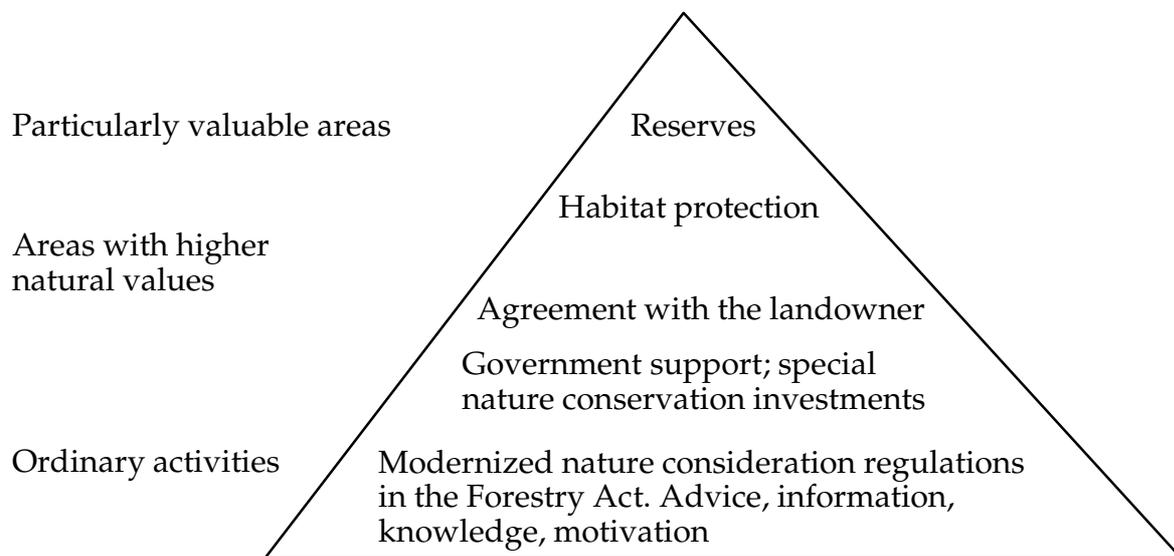
<i>Model A – Immediate general protection by legislative inclusion in the act's ordinances:</i>	<i>Model B – Protection after mapping by a regional authority and administrative decision in individual cases:</i>
Old hazel groves	Post-fire deciduous forests
Burnt forest	Natural and semi-natural old-growth deciduous forests
Alder fens	Natural and semi-natural old-growth oak, beech, elm, ash, maple, basswood, sweet cherry, and hornbeam forests
Large oak, beech, elm, ash, maple, basswood, sweet cherry, and hornbeam trees	Herb-rich alder groves
Large aspen, birch, black alder, willow, mountain ash, rowan, pine, and spruce trees	Ravine woods
Groves of pollarded trees	Herb-rich wide and shallow streams
Tree-lined roadways	Natural stream courses
Ponds on forestland	Virgin-like coniferous stands
Springs and surrounding wetlands	Wetland forests of oak, beech, elm, ash, maple, basswood, sweet cherry, and hornbeam
Ponds and wetlands on agricultural land	Herb-rich wetland forests
Stone walls, wooded patches, and cairns on agricultural land	Calcareous and mineral-rich fens
Islands of natural and semi-natural forests in mires	Hay meadows
	Natural pastureland
	Older areas of grazed forestland
	Spruce forests at the bases of ridges
	Coniferous forests on calcareous ground

Source: Statens Naturvårdsverk 1992c, 3-4.

simplicity and cost-effectiveness inherent with a single governmental authority for forest owners, justified making NBF the primary agency on forestland. This meant “the forestry organization shall have the entire responsibility for the habitat protection in the forest, that is to say, even to be the formal decision-making authority... Such a construction does not deprive the County Administrative Board of its role as principal regional nature conservation authority” (Ekelund 1992, 5). The reply also cited NBF’s new program to inventory woodland key habitats (Skogsstyrelsen 1999a), and the training in nature conservation the Board’s local personal had undertaken (Ekelund 1992, 6). NBF did agree that protecting biological diversity was important in the forested landscape. “A legally-based habitat protection as now is introduced in the Nature Conservancy Act, as a new form of area protection, is therefore important as one of several means to fill the ‘gap’ between the nature consideration regulations in the Forestry Act and the existing area protections in the Nature Conservancy Act” (Figure 3) (Ekelund 1992, 3). But on the other hand, the agency believed that Model A habitats initially would not be simple to define, nor immediately easy to understand, particularly for landowners working on their land. NBF instead suggested that for the first three years Model A habitats should be administered as Model B (Ekelund 1992, 3).

SEPA had stepped outside of the boundaries of its directive in proposing that the County Administrative Boards receive full authority for the habitat protection provision, according to the administrator of the state-owned forests (Ekholm 1992, 1). Domän AB, the conservative government’s newly-organized holding company for most of the state’s productive forestland (Håkansson 2000, 92), also believed that the lists of habitats were unnecessarily long, and that many could be included within the nature consideration regulations of the Forestry Act—administered, naturally, by NBF rather than the County Administrative Boards (Ekholm 1992, 2). Similarly, the Federation of Swedish Forest Owners complained, “With all of the investigation’s insights about the difficulties of the questions and the current lack of scientific knowledge, it is surprising that the investigation attaches such importance to a legal instrument...The proposal means that the state actually shall generally (Model A) or after inventorying and individual decision (Model B) regulate in detail the land use” across thousands of habitats (Österblom and Sandström 1992, 1-2). The federation completely rejected the idea. “The forest owners repudiate the investigation’s perspective. To use a legal protection institution of this type for thousands of

Figure 3. The viewpoint of the National Board of Forestry regarding sectoral responsibility for production forestry and nature conservation



Translated from: Ekelund 1992, 3.

natural objects can never be an effective means in nature conservation work, nor encourage the interest of nature conservation on the part of landowners" (Österblom and Sandström 1992, 2).

In another strongly worded position statement, the Swedish Forest Industries Federation protested the inclusion of Model A habitats, which it believed opposed the government's directive (Remröd and Arnqvist 1992a, 1). "We strongly question that model, and believe that through a clarified nature consideration paragraph in the Forestry Act one can include many of the habitats counted under Model A. The habitats that cannot be saved that way and that imply a long-term reduction in production forestry can suitably be treated according to Model B in the proposal" (Remröd and Arnqvist 1992a, 1). And in a joint letter of protest to the agriculture minister, leaders of these three organizations, joined by the Federation of Swedish Farmers, declared that the SEPA proposal was contrary to the principle of decentralized sectoral responsibility the Riksdag had expressed in the environmental legislation. This was "a principle with a larger private and corporate responsibility and a broader anchoring in the environmental work. We also believe that the proposal does not fit with the principle of a strong right of disposition and ownership that provides belief in the future and a responsible and effective use of the natural

resources" (Österblom et al. 1992, 1). Rather, an entirely different perspective was necessary:

We are instead entirely convinced that the land's owner and user must be given the important role to manage nature's diversity, with the help of the management laws' regulations, under one's own responsibility and decisions. The state's most important means to accomplish the environmental policy in this respect are education, information, and advising. Awareness, knowledge, and engagement by the landowners and the employees in agriculture and forestry are keys to success. The approach of recent decades, with its blind faith in regulation by authorities and legislation, must be replaced by a positive and thereby more effective nature conservation work. (Österblom et al. 1992, 2)

The groups also thought that biological diversity policies needed to be considered in wider contexts. For forestry, that meant SEPA's proposal should wait until the forestry policy review committee had finished its report (Österblom et al. 1992, 2-3).

Among their criticisms of SEPA's proposal, the five authors of the joint statement had noted that "the agency's view of the financial compensation questions does not base itself on applicable regulations" (Österblom et al. 1992, 1). NBF's commentary had also written that the Model A habitats did not fit within the Nature Conservancy Act's compensation framework (Ekelund 1992, 3), and indeed the compensation question was a major problem SEPA itself had identified. Although the government—writing in *En god livsmiljö*, the legislative origin of the habitat protection—had believed that most of the small, valuable habitats on forestland could be protected within the context of the Forestry Act's §21 (Prop. 1990/91:90, 395), SEPA thought the lack of systematic inventories for several of the habitat types made it difficult to estimate their total land areas. Thus the potential cost for compensation was difficult to determine (Statens Naturvårdsverk 1992c, 4). SEPA could not, according to the memorandum, reconcile the stated goals of the legislation with the government's express expectation that the total financial compensation would be small. "This is not possible if one simultaneously shall reach the legislatively established goals to preserve biological diversity and species in robust populations," SEPA wrote (Statens Naturvårdsverk 1992c, 5), basing its judgment on what the agency saw as two fundamentally conflicting circumstances:

The species' ecological demands mean that it often becomes a question of areas that are of a size exceeding what one can demand that a landowner shall bear without compensation.

Current compensation decisions and practice that have resulted from different appeals and judicial decisions show plainly

that the area included in the framework for current land use (without a severe handicap within the affected area occurring) is very small.

Taken together, the above imply a conflict of goals. One may either change the determination that the compensations shall be limited, or give up the goal to protect naturally occurring species in robust populations...at least regarding certain habitats and species. Another possibility is to change the regulations for compensation. (Statens Naturvårdsverk 1992c, 5)

SEPA's final report made the same point. "The habitat protection's conditions, which mean smaller areas that shall be ecologically stable and of limited economic value, stand in conflict with a portion of threatened and rare species' ecological demands" (Statens Naturvårdsverk 1992b, 12). *En god livsmiljö* had been clear that the habitat protection should strengthen the means for securing biological diversity, the report noted, but the size criterion had required a constant balancing "between on the one side ecological/nature conservation-related starting points, and on the other side demands for simplicity and unity (first and foremost regarding definitions and the geographic extent of the protection), as well as consideration of the fact that it shall be a question of 'smaller areas'" (Statens Naturvårdsverk 1992b, 13). Despite this limitation, and in part to answer the strong criticisms from the forestry sector that these habitats could be protected within the Forestry Act's nature consideration regulations, SEPA asserted that the habitat protection—by this point designed to encompass 11 Model A and 18 Model B types (Table 5)—fundamentally differed from those regulations. And this was the case even if the habitats to be protected might occasionally overlap with those encompassed within the sectoral environmental responsibility. "The nature consideration regulations are not a formal means of protection, but a duty for the landowner that lacks sanctions. The exception is the very few cases where the authority issues orders that a certain action shall be taken. The thought, though, has never been that the nature consideration regulations regularly should be applied by orders" (Statens Naturvårdsverk 1992b, 15). And SEPA believed the change in the rule for compensation had made application of the nature consideration regulations even more uncertain. "The limitation that current land use cannot be severely handicapped within an affected part has brought about an uncertainty in the application of the nature conservation regulations, which has seriously weakened the effectiveness of these nature conservation rules" (Statens Naturvårdsverk 1992b, 16).

SEPA had developed such a skeptical view of the Forestry Act and its regulations based not just on research from outside the agency—this report specifically

Table 5. Habitats proposed by the Swedish Environmental Protection Agency to be included in the Nature Conservancy Act's regulations on small habitat protection, August 1992

<i>Model A – Immediate general protection by legislative inclusion in the act's ordinances:</i>	<i>Model B – Protection after mapping by a regional authority and administrative decision in individual cases:</i>
Old hazel groves	Burnt forest
Alder fens	Post-fire deciduous forests
Large oak, beech, elm, ash, maple, basswood, sweet cherry, and hornbeam trees	Natural and semi-natural old-growth deciduous forests
Large aspen, birch, black alder, willow, mountain ash, rowan, pine, and spruce trees	Natural and semi-natural old-growth oak, beech, elm, ash, maple, basswood, sweet cherry, and hornbeam forests
Groves of pollarded trees	Herb-rich alder groves
Tree-lined roadways	Ravine woods
Ponds on forestland	Herb-rich wide and shallow streams
Springs and surrounding wetlands	Natural streambeds
Ponds and wetlands on agricultural land	Virgin-like coniferous stands
Stone walls, wooded patches, and cairns on agricultural land	Wetland forests of oak, beech, elm, ash, maple, basswood, sweet cherry, and hornbeam
Islands of natural and semi-natural forests in mires	Herb-rich wetland forests
	Calcareous and mineral-rich fens
	Natural meadows
	Natural pastureland
	Older woodland pastures
	Spruce forests at the bases of ridges
	Coniferous forests on calcareous ground
	Steep cliffs and talus slopes

Source: Statens Naturvårdsverk 1992b, 35-36.

refers to the Eckerberg and GRÖNSKA reports (Statens Naturvårdsverk 1992b, 16, 24)—but also its own survey of the County Administrative Boards and their experiences with the Forestry Act's §21 (Statens Naturvårdsverk 1991). The Boards desired more regulatory precision, stronger descriptions, and clarity regarding the degree of landowner responsibility required, particularly when national interests in environmental protection are involved. The Boards also thought more direct financial support to landowners should be available to promote increased nature conservation. (Statens Naturvårdsverk 1991, 2-4). "The law's demands are not considered sufficient. In addition, they have the form of recommendations. Disobeyance brings about no penalty, as is the case with other paragraphs in the Forestry Act," the report said (Statens Naturvårdsverk 1991, 1).

Against this background, it was understandable that SEPA would hold to its position that the County Administrative Boards should have final responsibility to administer the habitat protection law, even on forestland. The forestry organization could have an important role to inventory and map the individual objects, SEPA again argued. But the authority to make the final decision should not be divided among several agencies. Rather, it should rest with the regional agencies that had the overall power to administer national environmental and nature conservation policy, the County Administrative Boards. This would also simplify the eventual administration of compensation to the landowners, and eliminate potential doubt about which authority would govern, especially in the numerous places where the proposed habitats might lie in transition zones between forest and agricultural land (Statens Naturvårdsverk 1992b, 23-24).

These arguments were apparently unconvincing to the conservative government. The 1993 regulations to implement the Nature Conservancy Act's new paragraph granted immediate protection (Model A) to seven types of agricultural habitats, including ponds and wetlands, springs, stone walls, and the groves of pollarded willow trees once widespread in Sweden's southern provinces. The County Administrative Boards gained authority to survey and institute protection for individual examples of four habitat types areas within agricultural land, under the Model B formulation, such as natural meadows and stream courses. Similarly, the County Forestry Boards were to determine the boundaries and implement the formal protection for 19 different habitat types, such as burnt forests, ravine woods, wetland forests containing valuable broadleaf species, springs and surrounding wetlands, and steep cliffs (Table 6) (Skogsstyrelsen 1994; Naturvårdsverket 1995).

Table 6. Protected habitats under §21 of the Nature Conservancy Act, effective 1 January 1994 (as listed in §19 of the act's regulations)

<i>Habitats on agricultural land that received a general protection through legislative inclusion in the act's ordinances:</i>	<i>Habitats that received protection after mapping by the County Forestry Board and administrative decision in individual cases:</i>
Tree-lined roadways	Burnt forest
Groves of pollarded trees	Post-fire deciduous forests
Stone walls on agricultural land	Natural and semi-natural old-growth deciduous forests
Cairns on agricultural land	Natural and semi-natural old-growth oak, beech, elm, ash, maple, basswood, sweet cherry, and hornbeam forests
Wooded patches within open meadows	Herb-rich alder groves
Ponds and wetlands on agricultural land	Ravine woods
Springs and surrounding wetlands on agricultural land	Herb-rich wide and shallow streams
	Virgin-like coniferous stands
	Wetland forests of oak, beech, elm, ash, maple, basswood, sweet cherry, and hornbeam
<i>Habitats that received protection after mapping by the County Administrative Board and administrative decision in individual cases:</i>	Herb-rich wetland forests
Calcareous fens on agricultural land	Older woodland pastures
Natural meadows and natural pastures	Spruce forests at the base of ridges
Natural stream courses not on forestland	Coniferous forests on calcareous ground
Steep cliffs and talus slopes not on forestland	Calcareous and mineral-rich fens in the forest landscape
	Alder fens
	Old hazel groves
	Springs and surrounding forest wetlands
	Islands of natural and semi-natural forests in mires
	Steep cliffs and talus slopes on forestland

Source: Skogsstyrelsen 1994, Naturvårdsverket 1995.

IX. A New Environmental Goal for Swedish Forestry

Perhaps the most surprising element of the controversy over the habitat protection legislation is not the critique from the forest industry and owners' associations. Rather, the existence of the new law actually became an element of a political argument in favor of a new Forestry Act, promoting general deregulation in exchange for greater environmental responsibility from forest owners. As changes to the Forestry Act moved from proposal, to legislation, to final parliamentary consideration, the conservative government reasoned that Swedish forestry had long succeeded in maintaining a strong economic output of forest products and employment opportunities, though new environmental knowledge demanded improvement in the sector's nature conservation practices. These concerns joined to support sustainability as essential not just for the long-term health of the forest, but also for the long-range survival of the forestry sector itself. And since biodiversity was critical to support sustainable forest use, according to the argument, freedom of landowner choice for management methods was necessary to enhance biodiversity. This, in turn, required deregulation from the managerial limitations imposed under the Forestry Act of 1979. At the same time, revised nature consideration regulations—plus the habitat protection section of the Nature Conservancy Act, and additional nature reserves—could also help foster biodiversity, without significant impacts on production, and thus at no substantial cost to forest owners, just as the government had earlier maintained. And, as the government finally argued, this all would help the forest owners and companies meet their expanded sectoral responsibility under the 1988 and 1991 environmental legislation.

The forestry policy review committee issued its final report as planned on 1 September 1992. *Skogspolitiken inför 90-talet* was a wide-ranging, 343-page examination of contemporary Swedish forestry legislation and economic activity, their social and environmental effects, and the possibilities for the future (SOU 1992:76). In part reiterating a major reason why the Social Democratic government had originally created the committee, the first page of the report's summary declared both the success and failure of Swedish forestry during the 1980s. Industrial and private forestry in Sweden "has given essential support to filling the overarching social goals for economic growth, balance of payments, and regional balance..." yet had not "acted in agreement with the environmental and nature conservation policy

goals. A continuing improvement of consideration for nature conservation interests has, though, been able to be observed during recent years" (SOU 1992:76, 11). To hasten that improvement, the committee suggested that a new environmental goal be set equal to a production goal, with these "important conditions for the use of the forest" (SOU 1992:76, 14):

The Swedish forest's productive capacity shall be used for the long term, responsibly and with aim for good economic return for forest owners and society. A long-term use of the forest must occur in agreement with the natural conditions. The forest owners have a responsibility with this as a starting point to seek to improve or at least maintain biological diversity when the forest is used. (SOU 1992:76, 14)

The two goals were to read as follows:

The production goal

The forest and the forestland should be used effectively and responsibly so that it sustainably gives a good return. The forest production's direction shall be to secure substantial freedom of action in the future regarding the use of the products. The use shall be characterized by multiple use.

The environmental goal

The forestland's natural productive capacity should be maintained. Biological diversity and genetic variation in the forest shall be preserved by allowing naturally occurring plant and animal species in the country to live under natural conditions and in vigorous populations. Threatened species and nature types shall be protected. The forest's aesthetic and cultural values shall be protected. (SOU 1992:76, 15)

And the committee proposed that the first paragraph of the new Forestry Act should summarize the two goals with this text: "The forest is a national resource that shall be managed in such a way that it sustainably gives a good return at the same time that biological diversity is maintained. During management consideration of other general interests shall be taken" (SOU 1992:76, 15).

The earlier Bäckström and Ekelund memoranda (Bäckström 1992a; Bäckström 1992b; Annerberg and Ekelund 1992) formed the heart of the proposal's argument for the expanded environmental goal, in the report's seventh chapter, "Some specific starting points" (SOU 1992:76, 121-142). Indeed, those texts appeared virtually unchanged in the report, with three significant additions. First, the Bäckström text—here titled "Specifics about an environmental goal for production forestry"—now included material that more forcefully spoke the language of sustainable development, reflecting ideas that had spread in the wake of the previous summer's United Nations Conference on Environment and Development in Rio de Janeiro. The committee sought "a new approach directed toward predicting and preventing envi-

ronmental damages. For that to succeed, the ecological aspects of a certain policy must be observed at the same time as, for example, the economic, trade, energy, and agricultural policies...The commission's conclusion is that everyone must be made responsible for an economically and ecologically sustainable long-term development..." (SOU 1992:76, 124-125). If the connection to Rio was not clear here, a later chapter in the report spelled it out:

With the idea *sustainable* we tie to, among other things, the Rio declaration's and Brundtland Commission's statements about a durable, lasting development for the use of the forest as a natural resource. That means we believe that new forest shall be established after final harvest so that the resource is preserved. It means, however, also that production forestry must be conducted in such a way that the ecosystem is not challenged and that the forestland's natural productive capacity is maintained. (SOU 1992:76, 184-185; italics in original)

The report also referred to Sweden's acceptance of the Framework Convention on Climate Change, the Convention on Biological Diversity, and the non-binding Statement of Forest Principles (United Nations 1992a, 1992b, 1992c), thereby placing the forestry policy review committee's ideas squarely within this context (SOU 1992:76, 125). The third addition, appended to the Ekelund text later in the seventh chapter entitled "The forestry sector's responsibility for the environment," reflected the spring's debate over the new habitat protection. The forestry policy review committee urged the government to follow the recommendation from the environmental legislation of 1991 and allow the County Forestry Boards to define and administer the Model B habitats on forestland (Prop. 1990/91:90, 395). "According to the committee's opinion, the environmental decision should be followed. That is, according to our opinion it is a logical consequence of an increased sectoral responsibility that the forestry organization obtain a larger responsibility and wider powers regarding nature conservation questions in the forested area" (SOU 1992:76, 142; see also SOU 1992:76, 195).

In general, the forestry policy review committee's report reflected the deregulatory theme of the conservative coalition government. The committee did opt to retain the pre-harvest reporting requirement, and proposed to add a requirement to include nature consideration measures to be implemented at harvest. And, reflecting the committee's previous emphasis on old and dead wood, the Forestry Act's much-criticized §21 would also require landowners to leave at least 10 older trees on every hectare of harvested land. On the other hand, the requirement for every forest owner to maintain a forestry plan would be abolished, replaced by a simpler regulation to

report general conditions of their forests (SOU 1992:76, 18). And the General Forest Inventory, which still had 2 million hectares of non-industrial private forestland remaining to survey, would end (SOU 1992:76, 221-223). Gone, too, were the 1979 law's mandatory precommercial and commercial thinning, the regulations on the lowest and highest allowable ages for final harvest, and the provision in the act that in effect restricted the range of allowable silvicultural activities (SOU 1992:76, 19). The review committee also proposed to abolish one of the earlier act's most controversial sections, §5:3, which had promoted widespread restoration of "low-producing" forests in the northern counties, mainly high in the mountains. The largest tracts of virgin and near-virgin forests remained there, often with significant proportions of deciduous species, which of course reduced production from coniferous species (SOU 1992:76, 19; Ekelund and Hamilton 2001, 98-99; Håkansson 2000, 117, 379). To support the environmental goal, the report also proposed that 5 percent of the forestland in the entire country be set-aside from production forestry within 30 years (SOU 1992:76, 17), offering the following motivation:

A long-term and sustainable use of a renewable natural resource is only possible if it occurs according to nature's conditions. Use of a natural resource always means, though, that it is affected. Setting-aside of land for reserves where the forest is left for free development is therefore an important means to maintain biodiversity and reach the established environmental goal. The environmental policy decision that among other things contains a habitat protection is another means. The proposed forestry environmental goal must, though, above all else be reached by observing the demands that are given for preserving biological diversity within use of the forestland. (SOU 1992:76, 176)

With the end of the forest preservation duty, however, financing for the purchase of forest reserves required a new funding source. The committee suggested generating revenue by selling government-owned forestland (SOU 1992:76, 21-22).

The disappearance of the forest preservation duty also meant that the subsidy system, supported by the hundreds of millions of kronor that the duty had yielded over the previous decade (Table 7) (Ekelund and Hamilton 2001, 243-248), was no longer affordable. Future subsidies should only support the explicit goals of the new forestry policy and other government decisions, such as the preservation of forests with valuable broadleaf species and regional support for the northern counties (SOU 1992:76, 213-215). Subsidies should not "generally support production forestry at the expense of other industries" (SOU 1992:76, 212). The economic crisis was another strong reason to avoid a general system of state forestry support. "The committee

Table 7. Size of the forest preservation duty for income years 1976–1992, in mills applied to forestland value and millions of Swedish kronor

<i>Income year</i>	<i>Size of forest preservation duty</i>	
	<i>Mills applied to forestland value</i>	<i>Millions of kronor</i>
1976	0.9	18
1977	0.9	18
1978	0.9	17
1979	0.9	16
1980	10.1*	184
1981 – 1st half	3.0	229
– 2nd half	6.0	
1982 – 1st half	6.0	295
– 2nd half	5.0	
1983	5.0	262
1984 – 1st half	5.0	347
– 2nd half	8.0	
1985	8.0	419
1986	8.0	425
1987	8.0	426
1988	8.0	431
1989	8.0	424
1990	8.0	424
1991	8.0	429**
1992 – 1st half	4.0	107**
– 2nd half	–	

*Includes forest preservation duty of 3.0 mills, and a temporary tax of 7.0 mills to finance commercial thinning subsidies.

**Preliminary estimates.

Based on figures from Statistiska Centralbyrån [Statistics Sweden].

Translated from: Skogsstyrelsen 1992, 250.

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has observed that the budget situation for the state during a long time into the future can be expected to be constrained. A fundamental principle has been that the forestry sector can take greater economic responsibility as a result of, among other things, diminished economic burdens" (SOU 1992:76, 212-213). Among those burdens was the government's ability to require actions without financial compensation, which of course the 1987 Planning and Building Law had changed significantly, to the general benefit of landowners. The forestry policy review committee was not willing to fundamentally change that regulation, though its report did propose subtracting any amount below the qualification limit (SOU 1992:76, 196). This change would align compensation under the Nature Conservancy Act with a specific, somewhat less generous part of the Planning and Building Law (Ds 1991:87, 112-114).

A number of special statements appended to the main report indicate that not all of the committee members could reach complete agreement with the report's recommendations. For example, the four Social Democratic members who remained on the committee after the conservative coalition gained power, joined by the representatives from the three major forest workers' unions, presented a 14-page statement listing a host of objections (SOU 1992:76, 259-272). Among these, the group believed that the committee had proposed financial and other measures insufficient to support the overall goals of the proposal, and these members opposed the committee majority's emphasis on deregulation.

We believe that there are obvious flaws in the majority's proposals for forestry policy instruments. Despite raising the level of ambitions, before all else in the case of nature conservation, that cannot reasonably be satisfied by market control, there is no proposal for the means that are needed to meet the goals. At the same time the committee's proposals imply instead a weakened forestry policy. We do not believe that is acceptable with regard to the forest's role in meeting some of the most central social goals. Market control and the political control together decide the forestry sector's development. In a country such as Sweden, where the forest ecosystem covers 60% of the land surface, and where the forest has such a large importance for central social goals, it must be wrong to reduce the democratic influence over the forest's use. (SOU 1992:76, 265)

Among other items, the group opposed the explicit 5 percent national goal for nature reserves, believing that "there is no support to make that specification in the present situation" (SOU 1992:76, 263). The members also believed that the limits on the lowest permissible harvest age should remain (SOU 1992:76, 295). Furthermore, they had a dubious perspective on the report's financing proposals: "The commit-

tee's proposals for new financing mean in practice that the proposal is unfinanced. We are therefore strongly critical of the conservative committee majority's proposal for financing" (SOU 1992:76, 270), suggesting instead retaining part of the forest preservation duty—not for reserve purchases, but rather for research, forestry inventories, information campaigns, and "special nature conservation investments" (SOU 1992:76, 272).

In an even longer statement, committee expert Ulf von Sydow from SSNC strongly criticized the final report. His opening paragraph best summarized his viewpoint: "The diagnosis is clear. We know what medicine is required. The committee now hopes that the patient recovers as a result of joyous acclamations and encouragement!" (SOU 1992:76, 311). In his 21-page reservation, von Sydow complained that time for serious discussion of the future forestry policy had been short, and the proposals had been politically pre-determined (SOU 1992:76, 313). The law's new portal paragraph was also inconsistent with the policy statements in the earlier environmental legislation, he believed. "Instead of setting environmental consideration and economy equal, the portal paragraph should therefore in a new forestry law...specify the biological and physical/chemical frameworks for how the forest owner may administer his land" (SOU 1992:76, 314). He also thought that refusing to fully apply the polluter-pays principle within the forestry sector amounted to "two types of subsidies to the forestry industry"—a loss of general public welfare due to the impoverishment of the natural environment, as well a direct cost to taxpayers to offset this loss (SOU 1992:76, 316-317). Reminding the committee of a previous Liberal Party parliamentary motion to restore the earlier, more restrictive definition of the compensation regulation, von Sydow also noted, "If the existing compensation regulations are kept, in the long run a series of valuable, smaller areas will be destroyed with little economic gain for the individual, but large social losses" (SOU 1992:76, 319). He also pointed out the shifting definition of the region where additional forest reserves would be necessary to create, calculating that restoring the construction "below the forest regeneration line" would in fact nearly double the committee's estimated requirement of 5 percent of the forestland area (SOU 1992:76, 322). He, too, questioned the report's financing proposals, suggesting instead replacement of the forest preservation duty with a somewhat smaller "nature conservation fee" (SOU 1992:76, 325-326).

Similar concerns appear in SSNC's referral reply, which even included a graphic depicting the major differences between the existing area of nature reserves,

the final report's proposal, and the original 15 percent calculation from the special analysis (Svenska Naturskyddsföreningen 1992, 4). As a report in the organization's magazine, *Sveriges Natur*, commented, "The forestry policy investigation has hidden and distorted central supporting material. By splitting hairs with formulations and percentages, the investigation conceals the fact that its proposal actually almost guarantees continuing biological impoverishment of the Swedish forests" (Nilsson 1992, 15). Though not as strong in tone, the response from SEPA expressed similar concerns about the sufficiency of the proposed measures to reach the new environmental goal (Statens Naturvårdsverk 1992a).

The forest industry saw different problems with the proposal. "The Swedish Forest Industries Federation sees it as positive that the investigation proposes that a specific environmental goal is set equal with the production goal. We see good possibilities to reach the established environmental goal and simultaneously obtain a sustainable and high wood yield" (Remröd and Arnqvist 1992b, 1), the group declared, offering its view of the future of Swedish forestry. Oddly, this view appeared to resemble in some aspects the picture that the forestry sector's earlier declaration of intentions had criticized so strongly:

To reach the environmental goal in a rational and cost-effective way, production forestry will adjust silvicultural methods and nature consideration to the different conditions that exist in the landscape. The intensity of cultivation will vary both in the small scale—smaller areas of productive forestland will be left more or less untouched, for practical reasons or because the forest owner for nature conservation reasons gives up using them—and in the larger scale—productive lands near industry will be used more intensely than more distant, less productive lands. Across almost the entire forestland, important areas of reserves, woodland key habitats, forest-covered impediments, etc., that are not cultivated are also interspersed. (Remröd and Arnqvist 1992b, 4)

Comparing this vision to that of the forestry policy review committee, however, the federation said it detected a pessimistic outlook from the committee, in part as a consequence of the economic situation. This came from a fundamental misunderstanding about current industry conditions, according to the federation: "The picture of the future that the investigation has is characterized by today's low harvest level and is interpreted wrongly as a wood surplus problem. Unfortunately, that misconception creates an outlook unfriendly to development of most methods that aim to increase production" (Remröd and Arnqvist 1992b, 5).

Regarding the forestry industry's sectoral responsibility, the federation said it

could not accept the proposed change in the compensation regulation, nor any application of the polluter-pays principle, or of its variant user-pays (Remröd and Arnqvist 1992b, 6). "Such principles cannot be translated to production forestry. We cannot accept proposals regarding cost responsibility that further shift the burden to support common, public demands to forest owners with strained profitability" (Remröd and Arnqvist 1992b, 6). Furthermore, the federation supported the proposal's call for more forest reserves, but could not back the explicit 5 percent goal, saying it lacked foundation (Remröd and Arnqvist 1992b, 10). And the group strongly opposed the new requirement to leave 10 trees per hectare after final harvest, declaring, "The proposal is an example of just the type of ridiculous detail regulation that we in forestry defend ourselves against...The proposal is entirely unacceptable and means that the forest owner must give up between three and five percent of net production, that is to say, costs in level with the earlier forest preservation duty" (Remröd and Arnqvist 1992b, 15).

Though the forest industry federation supported equalizing the new environmental goal with the production goal, the association of private forest owners strongly opposed the idea. "This is an impossible solution that will create large uncertainty among both government authorities and rank-and-file users. The sectoral policy should instead establish a main goal that is supplemented with certain distinct restrictions. The main goal should be, as before, in the short and long term to secure a good forest production" (Åström and Österblom 1992, 8-9). The federation of owners did support the third alternative among the three major forest uses that the committee had considered, combining wood production and environmental protection across all forestland. The final formulation, however, should differ somewhat from the committee's proposal. "The statement 'high production over the whole forestland area' must, though, be interpreted so that the demands for, as an example, regeneration measures to a larger degree than today should vary with the productive capacity and other economic conditions. The environmental demands ought, on the other hand, to be general regardless of the productive capacity or location" (Åström and Österblom 1992, 12). While supporting most of the committee report's various proposals in other areas (Åström and Österblom 1992, 3), the forest owners reserved their strongest criticism for the perspective on sectoral responsibility reflected in the work.

"Sectoral responsibility" is a fashionable political term that makes people and organizations speak past one another, and that has

shown itself to make environmental preservation work more difficult. The forestry sector—the industry—is neither a legal nor an individual person. It has no powers and cannot be enjoined with any responsibility. A collective cost responsibility does not exist.

The committee speaks in favor of a fundamental environmental responsibility among the forest owners. We welcome that viewpoint—freedom under responsibility. It implies that the forest owners and their organizations are given a responsibility to renew knowledge gained about the environmental questions in the practical production forestry.

The state's increased engagement in the environmental questions can lead to measures that encourage forest owners to take environmental responsibility, or to strengthened laws and regulations. We believe that the committee should have recommended the first alternative. The committee for the most part does not discuss the detail regulation that has grown up during recent years, and thereby shows a duality in the question of the division of responsibility between the users and the authorities. (Åström and Österblom 1992, 12-13)

Not surprisingly, the federation considered the proposal to leave 10 trees per hectare after harvest “unrealistic and directly unsuitable for reaching the goals regarding the taking of consideration for the environment,” saying this proposal was a “result of stereotypical thinking. The need to save trees varies from place to place” (Åström and Österblom 1992, 16).

Agriculture Minister Karl Erik Olsson, a member of the Center Party elected from Skåne, Sweden's major agricultural province in the south, was thus in a somewhat constrained position when the time came to present a legislative proposal based on the committee's report. On the one hand, the forestry industry and owners appeared to generally accept the committee's conclusions, though not necessarily with complete enthusiasm. On the other side, the representatives for nature conservation interests—who had so strongly criticized Swedish forestry over the previous years—had some serious misgivings about the proposal. And by early 1993, when the proposition, titled *En ny skogspolitik* (Prop. 1992/93:226), first appeared, the economic crisis had reached a particularly precarious point, immediately after a major currency devaluation that had seen the value of the Swedish krona drop over 20 percent (Larsson 1999, 318; Petersson 1994, 11). Preparing a proposition for the Riksdag required a delicate balancing of these interests, and his solution was to emphasize the mutual interdependence of biodiversity and economic development under Swedish conditions.

Two themes reappeared throughout the minister's early chapters introducing the proposition: the central place of human forest use, and the development of

scientific understanding regarding the need to protect certain natural areas. Opening his section on “The foundations for a new forestry policy,” the minister declared what he saw as the most significant challenge for natural resource policy. “The support for the growing population in the world is the largest challenge for the future. The consciousness of that has increased markedly during recent years. It is clear that we must manage finite resources simultaneously as development is necessary for renewable resources that derive from biological production” (Prop. 1992/93:226, 24). Referring to Sweden’s participation in the Rio conference and the nation’s acceptance of the Statement on Forest Principles, Olsson also declared that a main purpose for forests was to satisfy human needs (Prop. 1992/93:226, 24). And after outlining the forestry policy review committee’s viewpoints and the principles that the committee proposed, the minister added this paragraph explaining his personal perspective:

For my part I want to stress the following. Sweden is what one can call an old forestry land. We have for hundreds of years cultivated the forest and used its products. Over time the needs have varied. Also, the methods for forestry and the level of management have changed. Large forest areas in northern Sweden were long untouched by forestry, while a proportionately large share of the forestland area in southern and middle Sweden was logged hard for fuel and building materials. Over time almost all forestland in our country has come to be affected by forestry in one way or another. In that respect we do not differ from many other industrial countries. Many of the older forests in southern Sweden are actually first-generation forests on old grazing lands. Our effort to build up a sustainable and high wood production from the forest, and the Swedish forestry policy’s current emphasis on the forest management goal, should be seen against that background. (Prop. 1992/93:226, 29-30)

This was, in other words, a recognition of the historical background that had created the present challenges, though it was no excuse for inaction. As a result of this long and intense use, he wrote, “the virgin forest qualities that despite everything still exist are dispersed and fragmented. This of course creates problems in our effort to protect and save biodiversity in the forest ecosystems. Despite this, we must live up to our global responsibility for the environment and support a sustainable development of forestry in an international perspective” (Prop. 1992/93:226, 30).

As he saw the situation, the impetus for that effort was also obvious. “The demands for care of nature and the environment in general have strongly increased during the 1980s as a result of comprehensive new knowledge and a conscious opinion. Environmental policy has certainly, as I have reported, advanced its posi-

tions" (Prop. 1992/93:226, 30). Fundamental to the change had been a new view of the importance of species and ecosystem variation: "The intrinsic variation within species, between species, and between different ecosystems comprises one of the most important conditions for the adaptivity and resistance capabilities of the ecosystems. Our use of the forest as a source of production should be characterized by that basic view" (Prop. 1992/93:226, 31). Consequently, it was time to establish a new environmental goal for forestry equal to the existing production goal. He proposed this text:

The productivity of forestland shall be preserved. Biodiversity and genetic variation in the forests shall be secured. Forests must be used so that plant and animal species that exist naturally in the forest ecosystem can survive under natural conditions and in vigorous populations. Endangered species and nature types shall be protected. The forests' cultural as well as aesthetic and social values shall be defended. (Prop. 1992/93:226, 27)

The goal would not merely benefit the general public, but protect the forest's productive capacity—that is, the very basis for the forestry industry. "An environmental goal fills as I see it not only an important, general function. It is also an end in itself for forestry. A strong, long-term forestry cannot be conducted if one disregards the natural conditions or works against these" (Prop. 1992/93:226, 31). And the government's new forestry policy, with its emphasis on deregulation and increasing the total area of forest reserves, would foster biodiversity:

For my part I believe that the new forestry policy that I recommend will be positive for nature conservation in many ways. The environmental consideration will become an integrated part of the forestry policy at the same time the reserve areas are increased. This will naturally favor nature conservation. Furthermore, the new forestry policy means a significant deregulation. The elimination of detailed silvicultural regulations will make possible an increased diversity in forestry. This favors nature conservation through a more diverse forestry. (Prop. 1992/93:226, 31)

Therefore, he supported the committee's proposal to eliminate mandatory precommercial and commercial thinning. "An increased freedom for the landowner in the choice of management methods generally supports biodiversity. Since precommercial and commercial thinning decide the stand's future character and development very early, a regulation implies that the desirable variation in the future forest is limited" (Prop. 1992/93:226, 57).

There were additional reasons to support both deregulation and the introduction of the environmental goal. The forest was a major economic sector, the minister

noted when describing the legislation's proposed forest production goal, which read: "The forest and forestland shall be used efficiently and responsibly so that it gives a sustainably valuable yield. The forest production's direction shall give freedom of action in questions about the use of what the forest produces" (Prop. 1992/93:226, 32). As the minister commented, "The forest has for a long time been an important source of income in our nation. It gives raw materials for our forest industry and it can even supply us with energy. The forestry industry is our largest export branch. The net export value is more than twice as large as the machinery and automotive industry combined" (Prop. 1992/93:226, 33). A new environmental goal could help counteract the criticisms of recent years that had threatened this important economic base, and could even become a future sales advantage. "The direction toward a forestry consistent with high ecological demands, both regarding the raw materials and their derivative products, that we now lay the foundation for provides the conditions to answer the criticism. Forest products based on a long-term use of a renewable raw material ought to be able to be an important sales argument" (Prop. 1992/93:226, 34).

And despite all of the controversy over the habitat protection provision of the Nature Conservancy Act, it actually had an important part to play in supporting Swedish forestry's sectoral responsibility for environmental protection, according to *En ny skogspolitik*. Endorsing the three-level, pyramidal concept for state vs. forestry sector responsibility that had developed through the environmental legislation of 1988 and 1991, Olsson also endorsed administration of the habitat protection on forestland by the County Forestry Boards. And he repeated the government's contention that overall compensation costs to the landowners would likely be small (Prop. 1992/93:226, 41). A number of the provisions of the Nature Conservancy Act should be important instruments to meet the demands of the new forestry policy, he believed (Prop. 1992/93:226, 42), and the habitat protection was particularly useful:

The new habitat protection provision in the Nature Conservancy Act supplements the regulations for protection of smaller land and water areas in a way that meets the demands that the new forestry policy establishes. The more detailed formulation of the habitat protection remains, but the goal is that it shall fill the gap that up to this point has been believed to exist between the Forestry Act's nature consideration regulations and the Nature Conservancy Act's forest reserve regulations. (Prop. 1992/93:226, 42)

Where protection of those habitats required financial compensation to the landowner, the legislation agreed with the forestry policy review committee, recom-

mending payment of only sums above the qualification limit (Prop. 1992/93:226, 44).

Two changes to the Forestry Act's nature consideration regulations also aimed to improve nature conservation within regular forestry operations. First, indicating that he had considered directly attaching sanctions to certain regulations, Olsson instead wrote that he preferred to allow NBF "the possibility to issue binding decisions on the taking of nature consideration in individual cases, without first needing to give advice and recommendations" before agency personnel could issue an order, as the 1979 law had required (Prop. 1992/93:226, 65). And without specifying a particular figure per hectare, *En ny skogspolitik* proposed to grant NBF authority to regulate the amount of old and dead wood to remain after harvest (Prop. 1992/93:226, 66). Admitting that these were departures from the general deregulatory theme of the committee's report and the legislation taken as a whole, the agriculture minister nevertheless defended their necessity. But at the same time he hoped that the government would work to improve understanding on the part of forest owners. "The government ought, in accordance with what I have recommended, to direct its activities to improving the environmental knowledge among forest owners. Further energies must consequently be directed toward education and advising," Olsson recommended, mentioning NBF's recent success with its national "Rikare Skog" educational campaign (Prop. 1992/93:226, 66; also see Persson 1990).

The legislation also avoided setting a fixed percentage of forestland as a target for total forest reserves, instead proposing a more open-ended goal: "To strengthen the protection for biological diversity, further forestland is set-aside as reserves. The rate of reserve creation is raised in comparison to the present situation" (Prop. 1992/93:226, 80). Following the reasoning of the review committee, *En ny skogspolitik* again noted that the habitat protection, among other forms of nature conservation, has a complementary role:

In determining how large an area of the forestland that needs to be set-aside as reserves, consideration of other measures that are implemented to protect biological diversity and fulfill the environmental goal should be taken. I am thinking then of the normal consideration that shall be taken in all measures in production forestry. But also of the application of the habitat protection, protection for wetlands, consideration in boundaries between forests and agricultural lands, and voluntary measures. (Prop. 1992/93:226, 81)

The idea that the need for new reserves ultimately depends on the results of a new forestry policy appears once again in this context. Although the special analysis

prepared for the forestry policy review committee indicated more reserves were necessary, that analysis “has not made precise any specific area that needs to be protected in a situation where the forestry policy is changed...The reason, of course, is that the need to a such high degree depends on the degree of nature consideration in forestry” (Prop. 1992/93:226, 82). Consequently, determining the final level would remain a task for the future. “Later, when practical experience of the new forestry policy has been won, it can be suitable to formulate a national value for reserve creation in the long term. It is possible that a level of the magnitude 5 percent of the productive forestland below the forest regeneration limit can be necessary to reach” (Prop. 1992/93:226, 82). With this statement, unlike the committee report, the forest regeneration limit might again become a factor in determining the locations of the reserve areas—a potentially significant difference, as noted earlier.

The economic value of Swedish forestry was clearly important to the Riksdag’s Agriculture Committee, which endorsed the new environmental goal as an economic necessity. “The committee shares the agriculture minister’s opinion that an ambitious environmental goal can well be joined with a continuous, high production of forest products and a competitive Swedish forest industry. A sustainable, long-term forestry cannot be conducted if one ignores or clearly counteracts the natural conditions” (JoU 1992/93:15, 19). Otherwise, the panel refused to support motions embodying criticisms of the proposed legislation. Indeed, the Agriculture Committee reviewed 30 separate proposals to alter the government’s bill, many from the Social Democratic minority, but none passed. For example, the committee rejected a motion to return the financial compensation regulations to the pre-1987 construction. The final committee report reminded the minority that the legislation incorporated the sectoral responsibility principle of protecting biological diversity within normal business operations, and that the bill allowed the government to deduct the amount below the qualification limit (JoU 1992/93:15, 24-28). The Social Democrats also proposed to retain mandatory thinning in the Forestry Act, which the committee rejected, based on the agriculture minister’s earlier reasoning. “The committee supports the agriculture minister’s opinion that an increased freedom for the forest owner favors biological diversity, and that there is a risk that the desirable variation in the forests of the future will be limited by the demands for precommercial and commercial thinning” (JoU 1992/93:15, 34). Three separate motions, two from the Social Democrats and another originating with the small Left Party, sought to retain some form of a forest preservation duty. The committee, though, was

clearly unwilling to provide financial support to the forestry sector beyond the extent of the regular national budget, and rejected all three proposals (JoU 1992/93:15, 53-54).

Several motions, mainly from the Center Party, urged removal of the provision for prison sentences if forest owners ignored NBF's nature conservation orders. Despite the fact that the Center Party was part of the governing coalition, the committee declined to endorse this change, writing, "it should be noted that the forestry legislation's regulations have a serious character, not the least when the infringements concern consideration for nature conservation" (JoU 1992/93:15, 36-37). Other motions from the Social Democrats and the New Democracy Party, a small populist party that had swept into the Riksdag after its first campaign in 1991 (Dahlberg 1999, 355), attempted to establish a national goal for creation of forest reserves. The New Democrats wanted a 5 percent goal for land below the forest regeneration line, and the Social Democrats sought a goal in the range of 5 to 15 percent within 15 years (JoU 1992/93:15, 48). The committee majority, though, would only concede that a goal within this order of magnitude might be necessary, though it was far too early to determine. "Later, when practical experience under the new forestry policy has been obtained, it can be suitable to formulate a national value for the long term reserve creation. As the agriculture minister emphasizes, a figure of the size range of 5 percent below the forest regeneration line can be necessary to set aside. To make a more certain decision today can scarcely be meaningful" (JoU 1992/93:15, 49).

As is the case with many legislative actions, the full Riksdag's final deliberation of *En ny skogspolitik*, on 26 May 1993, was not so much an opportunity to affect the outcome as it was a forum for proponents and opponents to restate their positions. In light of the bill's almost inevitable approval by the conservative majority, the Social Democrats used the debate to repeat their contention that the legislation represented an irresponsible deregulation based on faulty reasoning. As forestry policy review committee member Sinikka Bohlin asked her Riksdag colleagues in the debate's opening speech, "The pattern of the 1900's is very distinct: regulation and liberalization. After every deregulation the Riksdagen has had to decide on regulation. Do you recognize the pattern in today's proposal?" (Prot. 1992/93:116, 125). Her fellow Social Democrats agreed with the Agriculture Committee's majority regarding the need to establish an environmental goal for forestry, but for far different reasons, she argued.

By saying that the forest is a national resource, one emphasizes its unique, social values. It is a resource that not only has importance for the individual forest owner, but also for different regions and for the entire society. The report's words about freedom, responsibility, and knowledge echo very emptily when one has the long perspective of forestry policy. This means that the forest changes owner three or four times between regeneration and harvest. The so-called market powers cannot handle problems within such long time perspectives. Therefore, there are no reasons to believe that a deregulation of forestry should make the market more effective, or that the market should take the necessary environmental consideration.

We are at a crossroads: To choose the old conflict about ownership, which one has done in the investigation, or to stand up and think again. Man has long believed that we can transform nature according to our needs. We cannot. In the end, we always pay. What is man's role in nature? To conquer it or to be a part of it? Or shall we show that we can manage our natural resources in a careful way? We Social Democrats have decided. (Prot. 1992/93:116, 125)

And she called the idea that the legislation's deregulation will actually foster nature conservation "misleading and untrue," saying a lack of forestry regulations during previous decades resulted in the very problems that led environmental organizations and agencies to criticize Swedish forestry so strongly (Prot. 1992/93:116, 126).

Arguments from the governing coalition parties continued to stress both the need to give forest owners greater freedom, and the benefits that can result. Christian Democrat Carl Olov Persson believed the idea that forest owners had not met their environmental responsibility was overdriven, and that they were ready to accept new responsibilities.

Today 80,000 forest owners on principle have taken the course "Richer Forest," which is environmentally oriented. Here the forest owners have acted ahead of the legislators. Already before the proposition is adopted this morning, 80,000 have taken this course.

I believe it is the same way as with 1979's demands for production. If the forest owners get the right signals in the form of advice, education, and consultation from the authorities, they will want to take seriously their own forests' environmental values, precisely as they wanted to take seriously the production value. I do not believe this is any problem. (Prot. 1992/93:116, 132)

The new forestry policy did not ease the situation for the forest owners, he believed, but instead the opposite—except that now meeting the goals worked to the advantage of the owners (Prot. 1992/93:116, 133). Agriculture Minister Olsson underscored the point.

The new forestry policy gives the forest owner greater freedom and responsibility. The forest owner knows his or her forest best, and therefore he or she can best decide what measures shall be taken.

Precommercial thinning, commercial thinning, and forestry plans are voluntary. The duty to harvest is abolished. The forest owner is also given the responsibility to support the interests of nature conservation.

An increased freedom also demands an increased responsibility by the forest owner. That applies to both knowledge and finances. Now the forest owner must realize that a responsible forestry demands knowledge and humility. They must themselves so far as possible take the initiative to obtain such knowledge. But the forest owners must also, similar to other tradesmen, take an increased economic responsibility for their activities and their forestry. That principle is emphasized by today's forestry policy decision plainer than previously. (Prot. 1992/93:116, 138)

And this would ultimately benefit the forest itself, because forest owners "shall not need to be locked into standardized patterns of forest management. Wider frameworks and increased freedom with production forestry, furthermore, allows room for an increased diversity and an important variation, seen from an environmental perspective" (Prot. 1992/93:116, 139).

Olsson also defended the introduction of incarceration as a possible sentence for violation of NBF's nature conservation orders. The forestry legislation harmonized penalties under the bill's revised nature conservation section with the existing penalties applicable under similar laws, he explained (Prot. 1992/93:116, 139). But he did not worry that the sanctions would find wide application. "If someone mismanages the forest, there naturally shall be imposed a penalty, but we know from experience that the vast majority of forest owners do not mismanage their forests, but follow the regulations" (Prot. 1992/93:116, 140).^{*} Olsson also again expressed the conservative government's steadfast opposition to any new version of the forest preservation duty, calling it a type of extra tax on forestry. "I and the government have the opinion that this type of collective interest is something that shall be financed by society as such, and not by a source sensitive to the competitive condition of production forestry" (Prot. 1992/93:116, 142).

The strongest words of the debate, however, came from the Conservative Party, the leader of the coalition government. Riksdag member Carl G. Nilsson highlighted the unequaled position of forestry as a source of export earnings, and the importance of deregulation as a means to promote environmental responsibility

^{*}Indeed, of the 27,857 "advice and instruction" orders to forest owners issued by County Forestry Board personnel during 1988, only 1,333 were issued under authority of the Forestry Act's §21. And of *all* orders, only 504 required the next step, issuance of "commands and prohibitions" (Skogsstyrelsen 1990, 54).

by forest owners (Prot. 1992/93:116, 144). Forestry has nothing to expect from the Social Democrats, he declared, because the long reservations they had attached to the forestry policy review committee's report showed "they have not learned or understood anything" (Prot. 1992/93:116, 144). "That the Social Democrats still, through these reservations, hold fast to coercion as a means to reach the production goal illustrates the party's lack of ideological renewal. Is there anyplace else in the world today where one builds new laws based on coercion, when one wants to solve crises or other problems?" (Prot. 1992/93:116, 145). Instead, he believed the bill's focus on deregulation and a stronger sense of ownership could encourage silvicultural diversity among Sweden's thousands of forest owners, precisely because this would allow greater freedom to act. "An intact, or for that matter strengthened, right of ownership is here of the largest importance. What one owns, one cares for. This principle is of invaluable importance for the stimulus to a sustainable and quality-directed forestry. In this connection it is also a guarantee for good nature conservation and a strong nature protection." (Prot. 1992/93:116, 145).

During voting the next day, motions from the Social Democrats in opposition to deregulation and to restore a smaller forest preservation duty, as outlined earlier during committee consideration, failed (Prot. 1992/93:117, 2-3). Approval of the Agriculture Committee report made it official: After years of work and extensive consultation with governmental authorities, landowners, environmental groups, forestry organizations, and others, Sweden now had a new national forestry policy—one which continued to expect high production from the nation's thousands of forest owners, and at the same time offered them greater freedom to achieve it in exchange for broader responsibility to meet the environmental demands of a new era.

X. Conclusion

In 1985, when Björn Häggglund of NBF urged his Swedish colleagues to seriously contemplate the idea that production forestry could incorporate better nature conservation (Häggglund 1985), official forestry policy still centered primarily on timber and pulp production to support a critical national industry. Indeed, only a few years earlier, a review committee formed by the government to examine the capacity limitations on forestry industry expansion had issued a final report calling for additional measures to promote harvesting (SOU 1981:81). Later, this generated

legislation to supplement the 1979 Forestry Act with provisions to ration harvests from larger properties, compel commercial thinning, and require owners to maintain forestry plans—measures all aimed at strengthening the Swedish forestry industry's raw material supply (Prop. 1982/83:145). At the same time, the agriculture minister urged NBF to develop and apply the regulations for these new provisions in a way that avoided harm to areas of value for nature conservation (Ekelund and Hamilton 2001, 81).

Just eight years after Hägglund's memorandum, so much had changed that it was difficult to imagine how very different the recent past had been. Environmental values formally became just as important as production for national forestry policy, accompanied by an official expectation that Swedish forestry would incorporate nature conservation within all activities. An expanded Nature Conservancy Act now offered a means to legally protect habitats too small for effective inclusion under the act's other provisions. Although the Forestry Act had explicitly included a nature conservation provision as early as 1974, in the intervening period it was difficult to believe that environmental preservation would someday officially equal timber and pulp production as a national policy. Nor had the notion that the Nature Conservancy Act should specifically protect very small forest and agricultural areas yet obtained significant support. Recall that the investigator who examined the law in 1989 initially believed that existing provisions sufficed to protect small habitats, and thought that the major problem was administrative implementation, not the organization of the law itself (Naturvårdslagsutredningen 1989a, 19).

As great as these changes were, however, it is important to recognize that Swedish forestry's response to the challenge from Hägglund and others is not as radical as it might at first appear. To begin with, as the debate over the revised Forestry Act made abundantly clear, the majority of the Riksdag and industry appeared to support increased nature conservation and biological diversity within production forestry as a way to maintain the health of the forest, and thus the industry, as represented by such mundane economic terms as employment levels, foreign exchange earnings, and regional economic balance. Consequently, improving biological diversity became not just an environmental end in itself, but also a means to ensure high forestry revenues in the future. Fundamentally, this position emphasized the responsible use of natural resources, and not simply protection from the effects human influence. This is not surprising in a nation that has harvested fuel, food, timber, and pulp from its forests for hundreds of years (Nilsson 1990).

This understanding of Swedish forest conditions also influenced the means to achieve the goals that the legislation discussed in this thesis had established. The pyramidal concepts from *Natur '90* (Naturvårdsverket 1990) and the National Board of Forestry (Ekelund 1992), for example, both emphasize nature conservation measures in the context of ordinary forestry activities—in major part because these comprise by far the largest share within production forestry.* Biodiversity preservation in the system of nature reserves and national parks, as well as in the small habitats, is of course important in these circumstances. But those areas will likely never equal the total area of forestland devoted to production forestry, so how forest owners, the forestry companies, and loggers conduct their operations is critical for achieving the goals of the Forestry Act, while maintaining the habitats protected by the Nature Conservancy Act. This also in part explains why the changes have been incorporated within existing legislation, rather than standing apart as entirely separate laws. Goals that depend on the actions of thousands of individuals ultimately rely on their knowledge regarding the available choices and the responsibilities inherent in each. The Swedish Forestry Act and Nature Conservancy Act date to the beginning of the 20th century, with long-established administrative procedures, something an entirely new administrative structure, created by separate legislation, could not immediately duplicate.

As the analysis has shown, the County Administrative Boards and NBF—with its national organization of district offices—have also strongly influenced the outcomes, as existing institutional actors. One could speculate that the Forestry Act's new environmental goal, for example, might not have become part of that legislation had there not been a strong, national forestry organization willing to support and implement it through direct contact with forest owners. Or that it is possible SEPA would have retained full authority to establish protected areas for small habitats on forestland in the absence of NBF's objections to the initial versions of the habitat legislation. This thesis only begins to explain how these agencies interacted during development of the statutes and policies discussed here. Nevertheless, manifest disagreements between the agencies yielded trade-offs and compromises. SEPA obtained a habitat protection law as part of the Nature Conservancy Act, but under joint implementation authority with NBF. Similarly, the Swedish forestry industry

*In fact, the specific Swedish term that the agencies used, *vardagslandskapet*, translates literally as "the weekday landscape."

retained a strong forest production goal, but on equal footing with an expanded environmental goal, accompanied by a habitat protection law set apart from the industry's sectoral legislation.

Revising the Forestry Act required a major compromise between the state and the nation's forest owners. In exchange for broader responsibility to meet the new and stronger environmental goal, owners received greater latitude to manage their forests without the regulatory oversight that so many owners had found objectionable. This "freedom under responsibility" (Ingebretsen and Norén n.d., 4) lies at the heart of the concept of sectoral responsibility embodied in the legislation of this period. Just as the preservation of biological diversity rests on a broad base of actions within ordinary forestry operations, attaining that broad base relies on wide and voluntary participation across the entire industry. This participation in turn depends on knowledge of its importance now and for the future health of the forest. This is a seemingly simple system that anticipates a sophisticated set of shared understandings for long-term success.

A decade has passed since revision of the Swedish Forestry Act; the new version formally took effect 1 January 1994. Since then, for example, NBF has completed national inventories of swamp forests (Rudqvist 1999) and woodland key habitats (Nitare and Norén 1992, Skogsstyrelsen 1999a). These are exactly the types of ecologically-important forest areas that the habitat protection provision of the Nature Conservancy Act and the nature conservation section of the new forestry law, now known as §30, had in mind.* However, the 10-year span since enactment of the latest forestry policy is a short period in the life of forests that have seen substantial human disturbance over hundreds of years. Despite this potential limitation, NBF intends to thoroughly assess the policy once during every four-year government mandate, and has already conducted two evaluations (Skogsstyrelsen 1998, Bondeson 2002). A third evaluation is now underway as part of a review by a special investigator, appointed in mid-2004 to examine the Forestry Act in the context of more recent developments in national environmental policy. The government has specifically stated that the foundations for the existing forestry policy—in particular, the environmental and production goals—shall remain in force (Dir. 2004:70).

*NBF financed the first phase of the woodland key habitat inventory with unspent funds from the forest preservation duty (Skogsstyrelsen 1993). So in a sense the proponents of retaining the duty to finance nature conservation measures had part of their demands fulfilled, albeit indirectly.

The two evaluations completed to date offered evidence of just how much Swedish forestry has changed since revision of the Forestry Act, and of the remaining challenges. In an analysis of NBF's efforts to balance the Forestry Act's production and environmental goals, the Swedish governmental auditing agency concluded that the financial compensation regulations restricted NBF to a reliance on voluntary action to meet the environmental goal (Riksrevisionsverket 1999). At this point, this policy instrument appears to have achieved some success, according to NBF. "The environmental work in the forest has gone from words to action. But the recently-planted forests have worsened and the mountain of precommercial thinning grows," declared the headline on the press release announcing the latest evaluation (Skogsstyrelsen 2002). Sweden's forest owners and industrial enterprises had voluntarily set-aside small areas of their productive forestland (at least one-half hectare in size) that totaled over 800,000 hectares, an amount nearly equal to the total productive forestland within the country's national parks and nature reserves (Skogsstyrelsen 2001, 1-4).

Furthermore, the intensity of regeneration and precommercial thinning activities among forest owners had slowed considerably during the early part of the 1990s, with some modest recovery by the latter half of that decade. Just three-quarters of all final harvest hectares met the revised Forestry Act's relaxed regeneration regulations, lower than the previous survey conducted four years earlier, when 83 percent had fulfilled the legal requirements. NBF attributed the change to economic factors, a higher reliance on natural regeneration and reduced level of soil preparation (Bondeson 2002, 223). The annual total hectares of precommercial thinning in the early 1990s was just 60 percent of the level of the previous decade, leading NBF to conclude that 1.2 million hectares were in "acute" need of this silvicultural measure. Here, again, economic conditions were influential, but the number of advice and instruction orders from the County Forestry Boards appeared more significant (Bondeson 2002, 106, 225-226).

After 10 years, then, the results appear mixed. Swedish forest owners clearly have taken greater responsibility for nature conservation within their production forestry. Whether deregulation has fostered the silvicultural variation—and thus the greater forest biodiversity—expected by advocates of the legislation, or whether the results reflect a lack of silviculture and limited or no improvement in biological conditions, remains an open question. In light of the large economic impact of Swedish forestry exports, this is not merely an academic issue. Silvicultural actions

today have implications for many years to come. Recently the head of NBF, Göran Enander, expressed his concern that a future wood shortage, brought on by a combination of lower forest growth in the coming decades and more limited import potential, could significantly harm the forestry sector and thus the national economy. "During the 1990s production forestry was deregulated and the principle 'freedom under responsibility' became controlling. The latest analyses show, though, that forestry must take responsibility to a clearly higher degree than up to this point so that we can optimally use our renewable resource" (Enander 2003). So it seems that Swedish forest owners may now need official encouragement to produce timber and pulp, that indeed they must change their attitude once again. As recently as the late 1980s, when Swedish forestry began to incorporate broader social perspectives regarding the value of environmental protection, the current situation could scarcely have been imagined—particularly when one realizes that today's messenger at NBF was formerly the head of SSNC (Skogsstyrelsen 2003a).

APPENDIX: A NOTE ON SWEDISH LEGISLATIVE PROCESS

In the United States, formation of a special committee of experts to examine an issue of civic importance, often known as a “blue ribbon committee,” is more the exception than the rule. In Sweden, however, this is an important part of an institutionalized process for structured political consultation. It ensures that representatives of all groups potentially affected by a policy change can express their views and influence the outcome. The revision of the Swedish Forestry Act described in this thesis is but one example of many. This appendix outlines the process as an aid to understand how public policy ideas become law under the Swedish system.

A review committee begins with a directive (*kommittédirektiv*) from the appropriate government minister, expressing the administration’s political decision that a problem requiring legislative action exists. A directive usually explains the government’s rationale for establishing the committee, and provides an outline of proposed tasks, composition, range of authority, and the expected date for a final report. Normally, committee membership will include representatives from a broad array of organizations plus members of parliament. Note that the forestry policy review committee included labor union leaders, heads of nature conservation organizations, and industry representatives. This inclusiveness is an essential part of the process.

Typically, these committees hold meetings, conduct study visits, consult appointed experts, and circulate draft memoranda in the regular course of their work. In the past, committees could meet for several years. One committee formed to review the 1948 Forestry Act, for example, began in 1965 and finally delivered its complete report in 1973. Now, though, timetables are more restricted, with roughly two years typical for consideration of more complicated questions.

The final reports are often quite lengthy and detailed. Publication occurs by year and number in two series of Swedish government publications. Formal committees with parliamentary representation appear in the “SOU” series (*Statens Offentliga Utredningar*). Reports from ministerial department investigations appear in the “Ds” series (*Departementsserien*). After publication, a wide range of public and private organizations, as well as interested individuals, have a formal opportunity to comment to the government on the contents during the referral stage (*remiss*). This resembles the “public comment” periods for American legislative and

administrative actions, but in the Swedish system distribution to solicit viewpoints is more systematic.

Many, but not all, of the final reports form the basis for legislative proposals, known as propositions. A legislative proposition is, again, often lengthy. The government minister who handles the subject area—for forestry, this has ordinarily been the agriculture minister—reviews the contents of the original SOU or Ds report and other materials, proposes specific legal text for parliamentary action, and then explains how his or her legislative proposals concord with or differ from the committee's original viewpoint, and why. In contrast with most American legislation, legal language is often not the major part of Swedish government legislative proposals. Rather, the motives for the government's proposal comprise the primary text.

Legislative consideration by the Riksdag has more in common with American legislative systems, despite the difference in governmental forms. In both countries, substantial work gets done in committee. Forestry issues normally appear before the Agriculture Committee (Jordbruksutskottet, abbreviated JoU), though portions of proposals may also be heard by others, such as Housing (Bostadsutskottet, BoU) or Taxation (Skatteutskottet, SkU). A committee report (betänkande) to the full Riksdag may have reservations from individual members of parliament attached, referring to motions for consideration by the entire body. After balloting on these, the Riksdag will cast a final vote on the committee report. Passage of a proposition then means that the issue then becomes a task for administrative implementation by the appropriate local and national authorities.

This is a very simplified outline of a lengthy and complicated process. For further information, see Heclo and Madsen 1987, Petersson 1994, Fridell 2000, and Riksdag 2003 (all in English), as well as Riksdagen 1998 (in Swedish).

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