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School of Forestry and Environmental Studies

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1974

# The Environment For Women Working On Environmental Problems

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## Recommended Citation

Ridley, Jeanne Clare; Goss, Adele H.; Randall, Jeanna; and Westenberger, Jane, "The Environment For Women Working On Environmental Problems" (1974). *Yale School of Forestry & Environmental Studies Bulletin Series*. 15.  
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YALE UNIVERSITY: SCHOOL OF FORESTRY AND  
ENVIRONMENTAL STUDIES

BULLETIN No. 84



THE ENVIRONMENT FOR WOMEN  
WORKING ON ENVIRONMENTAL PROBLEMS

BY

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Edited by WILLIAM R. BURCH, JR.

1972-73 CHAMPION INTERNATIONAL CORPORATION LECTURESHIP

NEW HAVEN: YALE UNIVERSITY

1974

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### 2012

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# THE ENVIRONMENT FOR WOMEN WORKING ON ENVIRONMENTAL PROBLEMS

## INTRODUCTION

For a variety of reasons the natural resource professions have most consistently remained male occupational preserves. In recent years private and public resource organizations have sought to avoid discrimination on the basis of gender and have developed programs to actively encourage greater participation by women. As in most matters of instant reform, the rhetoric often has been more prolific than concrete action.

Perhaps the experience of the Yale School of Forestry and Environmental Studies is representative of these trends. Though there has been no overt discrimination, women were not a regular component of the student body until 1966. However, today over a third of the students are women, while our female graduates are filling a variety of positions from field forester to environmental educator.

Therefore, though the school represents certain broad trends of natural resource professions, it also has a tradition of dealing with social problems. Consequently, it seemed important to look at ourselves and the natural resource professions to identify some of the accomplishments, special problems, means of implementation, and likely futures for women in this field.

Conservation efforts seldom recognize that human beings are the first and most significant natural resource. Thus we seldom talk about the use or sustained yield or preservation of the human resource and the ways of avoiding misallocation or abuse, and how to stop the waste and destruction of this essential resource. Therefore, as a start on our practical resource conservation measure we sought information on: (1) demographic trends affecting the 'supply' of women for the natural resource occupations, (2) the means for women gaining employment in such occupations, (3) some of the ways for improving the 'yield' of women in such occupations, and (4) some of the problems and opportunities which should be anticipated. Our understanding came from talks during April and May of 1973 given by four outstanding professionals from academia, the Bureau of Land Management, the U.S. Forest Service and the National Park Service.

The edited talks presented by our experts follow. It must be emphasized that all the participants in this symposium saw our effort as a tentative begin-

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ning. Hopefully persons a decade hence will see our efforts as a benchmark to measure how far they have progressed from our primitive beginnings.

The efforts of Ruth Allen and Anne Fletcher were essential in giving order and substance to this effort. This was part of the Champion International Corporation Lectureship Series.

W. Burch  
March 1974  
New Haven, Connecticut

CHAPTER ONE

ON THE CONSEQUENCES OF  
DEMOGRAPHIC CHANGE FOR THE  
ROLES AND STATUS OF WOMEN<sup>1</sup>

by  
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Changes in the roles and status of women as well as changes in the three demographic factors—mortality, fertility, and migration—occurred as part of the vast economic and social changes of the Industrial Revolution. The demographic changes first experienced in Western societies have spread to other parts of the world as other societies, in varying degrees, have been industrializing. Even in highly developed societies such as the United States, however, demographic changes have continued. The baby boom of the 1940s and 1950s has made it quite evident that fluctuations in the rate of population growth may still occur. Moreover, the American population continues to be a highly mobile one and population redistribution continues at a steady pace.

This paper is an attempt to trace some of the consequences and implications of demographic change for the roles and status of women. In the first section of this paper some of the major changes in women's roles and status that appear to have accompanied past demographic changes in the United States and northwest Europe will be examined. The second part will focus on the baby boom period and the implications that the rise in fertility had for the status of American women. The final section of this paper presents some speculations concerning implications of future possible demographic change.

As the subsequent discussion will make clear, there are large gaps in our knowledge concerning the nature of women's roles and status prior to the twentieth century. Despite these gaps, however, it is hoped that an examina-

<sup>1</sup>The material in this paper furnished the basis for Professor Ridley's talk. It originally appeared in Commission on Population Growth and the American Future, Research Reports, Volume 1, Demographic and Social Aspects of Population Growth.



tion of the available evidence will provide some perspective for discerning what the probable consequences of future demographic changes may be for women. Surely, speculation as to the future is better if based on even piecemeal evidence.

Before proceeding to the major focus of this paper, two aspects should be noted. First, many of the demographic processes discussed in this paper have occurred and have had an influence over relatively long periods of time. The results of future changes, therefore, cannot be expected in a relatively short period of time. Rather, the speculated changes are likely to occur, if they do so, only after several generations.

Secondly, any discussion of the roles and status of women immediately encounters a conceptual problem.<sup>1</sup> Of major importance is the conceptualization of the terms, role and status. There has been an unfortunate tendency to confuse these terms, and thus a great deal of haziness and imprecision tends to enter into discussions of them. Even in sociology, the discipline that popularized these concepts, a certain ambiguity sometimes exists in their usage. Nevertheless, a distinction should be made between these terms. Both deal with aspects of social position. Status refers to the ranking of a social position in terms of power, prestige, and esteem in comparison with other social positions. Accordingly, status is a relative term. On the other hand, role, although also referring to a social position, is generally defined either normatively or behaviorally. Thus, role is defined as an expected or actual pattern of behavior associated with a particular social position. The concept of role, therefore, does not imply a ranking.

Consequently, when changes in the status of women are the major concern comparisons between women are not only inappropriate but misleading. The position of women in terms of status is always relative. The obvious comparison then is with men. When the concern is with changes in the roles of women over time the appropriate comparison is with women at some time in the past. This distinction in the use of these two concepts is maintained in the following discussion.

### *Historical Perspective*

#### *An Overview*

Women have always worked. But the degree of importance that societies have attached to women's work has varied greatly. Perhaps there existed greater equality between the sexes prior to urbanization and industrialization.<sup>2</sup> There is some evidence indicating that at least a few women occupied positions of greater power and responsibility than after the advent of industrialization. It

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was not unusual in Colonial America for a woman to run her husband's business in his absence or to act more as a partner when he was at home. In Europe in the seventeenth century, wives and husbands often were partners in the craft guilds. Nor was it unusual in eighteenth century Europe or America for a wife, rather than a son, to inherit the family business or farm.<sup>3</sup> Even in some of the original 13 colonies, and for a short time after the American Revolution, women could vote if they met the property qualifications.<sup>4</sup> Such evidence suggests that sharp distinctions in status between men and women were not always made. Rather, differences in a person's status appear to have depended more on one's class position than on one's sex.

Yet, a division of labor between the sexes appears always to have existed; and as far as can be discerned, women in all societies have always tended to be subordinated to men.<sup>5</sup> To some degree this subordination appears to be a result of the necessity for women to fulfill the biological role of reproduction. Because of this important role, women are more restricted in the activities they may undertake. Thus, at least in the childbearing and rearing period of their lives, they are more confined to the home.

In preindustrial societies, women would combine the bearing and rearing of children with an economic role, since economic activities were centered within the family. But with industrialization, economic production was gradually removed from the home. If women were to continue to fulfill their childbearing and child-rearing roles, they were restricted from engaging in economically productive work. Moreover, men found that they had to assume almost completely the economic role for the family. Since this required men to spend a great deal of time away from their homes, their participation within their families as husbands and fathers was greatly diminished. As a result, the child-rearing tasks women once shared with their husbands had to be assumed by them more fully. In addition, it is likely that women acquired many of the household and familial tasks that had formerly been shared with their husbands. No longer would wives and husbands go to the market together, for the family as an economic unit no longer had business to transact there. Accordingly, a much sharper division of labor within the family based on sex emerged.

Men, by retaining their economic role through their occupations, acquired the status that once was attached to the family as a group. Hence, the family's status increasingly was dependent on the occupational role of the husband. The woman, having no occupation defined in the economic sense, therefore, had no claim to status in her own right.<sup>6</sup> The demographic developments, however, that occurred as part of the Industrial Revolution gradually permitted women to resume an economic role in society. This resumption of the economic role is evidenced by the increased rates of female labor force participation

of industrialized countries in the twentieth century. In the United States, labor force participation of women rose from 18.3 percent in 1890 to 43.4 percent in 1970.<sup>7</sup>

Changes in the three demographic factors—mortality, fertility, and migration—contributed to the resumption by women of an economic role. The declines in mortality produced marked increases in average life expectancy and hence lessened the need for prolific childbearing. For most of human history, high mortality required correspondingly high fertility. But with decreased infant and child mortality, women no longer were required to bear a large number of children. Such factors as the rising costs of rearing children in industrializing societies further diminished the importance of reproduction.<sup>8</sup> Changes, also, in the mobility of families and individuals had, as we shall see, a number of consequences for the roles and status of women.

Since the effects of these various changes in the three demographic factors are so interrelated, it is difficult to disentangle them. Nevertheless, some of the more important and obvious effects that may be attributed to each of the demographic factors will be discussed below.

### *Effects of Mortality Declines*

One of the most obvious consequences of the declines in mortality was the increase in average life expectancy.—A newborn female in today's industrialized countries can look forward to a lifetime, on the average, of 70 years or more. Even in many of the more recently developing countries, average life expectancy for females has now reached approximately 60 years. In contrast, 100 or even 50 years ago, the average life expectancy in Western countries was considerably less. Estimates for the United States at the beginning of the 19th century place life expectancy at approximately 35 years.<sup>10</sup> Data for England and Wales indicate that for females born in 1840-41, average life expectancy was approximately 43 years.<sup>11</sup>

The following figures of life expectancy at birth for American males and females illustrate the dramatic increases in life expectancy in the 20th century.<sup>12</sup> For females the increase in life expectancy from the beginning of the twentieth century to 1968 has been slightly over 23 years, while for males it has been slightly less than 19 years. These improvements in life expectancy have resulted mainly from the tremendous reductions in infant and child mortality. While in 1900, 79 percent of white American females could expect to survive to age 20 and only 65 percent could expect to survive to age 45, by 1965, 97 percent could expect to survive to age 20 and 94 percent to age 45.<sup>13</sup> Moreover,

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Years of birth	Males	Females
1900-02 .....	47.9	50.7
1909-11 .....	49.9	53.2
1919-21 .....	55.5	57.4
1929-31 .....	57.7	61.0
1939-41 .....	61.6	65.9
1949-51 .....	65.5	71.0
1960 .....	66.6	73.1
1965 .....	66.8	73.7
1968 .....	66.6	74.0

American white women surviving to age 45 in 1965 had a future average life expectancy of 32.9 years.<sup>14</sup>

Consequently, women today look forward to a large number of years at the end of their childbearing period. As Myrdal and Klein<sup>15</sup> point out, these years, when women are in their forties and fifties, are ones in which most women are still healthy and energetic. In fact, for men, these are precisely the ages at which they are considered to have attained the peak of their productivity in many occupations.

These increases in life expectancy for both sexes have had many implications for marriage and family life. Most obvious have been the increases in marital duration and the reductions in the probability of early widowhood. The extent of the effects on marital duration may be seen by considering the following hypothetical figures.<sup>16</sup> At an average life expectancy at birth of 43 years, a group of women married at age 20 may expect an average of 28 years of married life. In contrast, with an average life expectancy of 72 years, a group of women marrying at the same age may look forward to an average of 44 years of married life. This represents a gain of 16 years.

At the turn of the century average life expectancy for both American males and females was somewhat better than the 43 years assumed in the hypothetical estimates given above, being approximately 51 years for women and 48 for men. Glick and Parke estimate that the increase in marital duration for women in the United States during the twentieth century has been approximately nine years.<sup>17</sup> This extension of married life, of course, means that spouses may look forward to spending many more years together.

Furthermore, with an average life expectancy of 72 years, 85 percent of the women will be alive and still married at age 50, as opposed to only 48 percent when average life expectancy is 43 years. The proportions of women becoming widowed have thus changed dramatically. With an average life expectancy of 43 years, approximately 17 percent of women surviving to ages 40 to 49 would

become widowed.<sup>18</sup> At the higher life expectancy, only six percent will have been widowed at those ages.

Although the chances of widowhood for women in the early adult ages have been reduced considerably as a result of the lengthening of life, the prevalence of widowhood has increased at the later ages. This results from the differential in mortality between the sexes. At all ages, males tend to have higher mortality than females. In the United States, the mortality differential between the sexes has been increasing as life expectancy has increased. For example, between the period 1939-41 and 1968, the differential in life expectancy increased from 4.3 years to 7.4 years. Taeuber has pointed out that American men are more disadvantaged in terms of mortality than in other countries. This may reflect the differential burdens of the roles men and women are expected to perform in American society.<sup>19</sup> To a great extent American women have become the largest leisure class any society has ever had. At no time prior to industrialization was the role of women ever conceived as solely that of bearing and rearing children. Today, however, this conception has become, as Janeway indicates, one of the myths concerning women.<sup>20</sup>

### *The Reduction in Fertility*

The freedom women attained when low mortality no longer necessitated constant reproduction meant that women no longer had to face "... the drain and danger of pregnancy to no purpose .. ." Thus, this released "energy" of women "... could be spent on other aspects of life."<sup>21</sup> Not only did fewer years have to be spent on the bearing and rearing of children, but because of the increasing life expectancy, a smaller portion of women's lives had to be devoted to these activities. More recently, in the United States during the 1940s and 1950s, the earlier age at marriage and the shortening of intervals between births have also resulted in more time becoming available to women.<sup>22</sup>

The decline in family size can be illustrated by contrasting the average number of children had by ever-married white women born in the period 1835-39 to those had by ever-married white women born in 1910-14. The average was 5.3 children for women born in the earlier period, while for women born in the later period the average was 2.3 children. Moreover, 35 percent of ever-married white women born in 1835-39 had seven or more children while only four percent of the white ever-married women born in 1910-14 had such numbers. This downward trend in family size has been similarly observed in other industrialized countries.

One of the consequences of the decline in family size is that, at any point in time, fewer women in the childbearing years are pregnant or recovering from

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a recent pregnancy.<sup>23</sup> Another consequence of low fertility is that proportionately fewer women in a society are responsible for the care of young children.

Glick and Parke have described some of the changes in the life cycle of American families that have resulted from the changes in fertility as well as age at marriage.<sup>24</sup> Below are shown the median ages for selected groups of women at various points in the family life cycle.

Event	Years of birth of women			
	1880 to 1889	1900 to 1909	1920 to 1929	1930 to 1939
First marriage .....	21.6	21.1	20.8	19.0
Birth of first child .....	22.9	22.6	23.0	21.5
Birth of last child .....	32.9	30.4	30.0-31.0	n.a.
Marriage of last child .....	56.2	51.9	51.5-52.5	n.a.

n.a. = Data not available.

These data indicate several points of interest. First is the decline in age at first marriage in the twentieth century. Second is the concomitant trend to an earlier age at which women have their first birth.<sup>25</sup> Third, and most important, is the decline in age of women at the time of the birth of their last child. Thus, for women born in the 1920s, the age at which they completed their childbearing was two to three years younger, and their age at the time of marriage of their last child was four to five years younger than among older women. This shorter period of time devoted to childbearing is an effect, of course, of the decrease in family size. Since, as previously pointed out, the duration of marriage has increased, husbands and wives spend an increasing amount of time together after their children have left home.

Some students of the family have argued that one consequence of these changes has been for marriages to become more companionate in nature. Furthermore, the reduced time required for reproduction and child care has permitted married women to enter the labor force in greater numbers. In turn, this increased labor force participation, or the possibility of it, has led to a less-

ened financial dependence of wives on their husbands. Therefore, the importance of the personal relationship within marriage has been further enhanced and the status of wives within the family has likewise improved.

Davis has speculated that this increased importance of the personal relationship in marriage has contributed somewhat to the increase in divorce.<sup>26</sup> It is possible, also, that husbands and wives, realizing that both will survive into the older ages, are more prone to seek divorce if they find their marriages unsatisfactory.

### *Migration*

While it was the Industrial Revolution that produced the technology and, indeed, the need for high rates of mobility within societies, the shifts in mortality and fertility rates also contributed to increasing rates of migration within and between societies.

The shifts from high to low death and birth rates resulted in increases in the rates of population growth. These high rates of growth were the result of the differential timing of the changes in the death and birth rates. As a general pattern, death rates declined more rapidly than birth rates. As long as fertility remained high the declines in mortality meant that the numbers being born were increasingly surviving to older ages.

The pressure of the increasing numbers in rural areas tended to push many young people off the land. Moreover, the attractiveness of new opportunities produced by industrialization drew the surplus rural populations to urban centers. Also, for Europeans in the eighteenth and nineteenth centuries, there was the possibility of migrating overseas to the empty lands of the New World.

Although men moved longer distances than women, the rates of mobility among women during the early stages of the Industrial Revolution were probably almost as high as among men. This was probably more true for the working classes than for the upper classes. Certainly the high rates of employment of women in factories and domestic service in the nineteenth century testify to this. If women were to work, however, they had to work outside the home, removed from the protection of their husbands and kinsmen. Indeed, it was perhaps these high rates of female employment outside their homes in the new industrial establishments that contributed to legislation designed to protect employed females.

Even though the relationship between high rates of migration and low fertility has yet to be firmly established, a number of students have speculated that smaller families probably have contributed to the ease of movement of families.<sup>27</sup> Migration also has certain implications for the familial relations of

both men and women. Although both sexes no longer resided in a community surrounded by their relatives, the isolation from one's relatives was probably felt more deeply by women. No longer could women share their household and child care problems and tasks with other relatives. Hence, more and more they had to turn to their husbands for adult companionship and emotional support. Here, then, was another factor contributing to the intensification and personalization of the husband-wife relationship.

*Changes in Age Sex Structure*

Changes in the rates of births, deaths, and migration produce changes in the age and sex composition of a population. One consequence of these shifts, often overlooked, is the increased task of child-rearing and child care women experienced in the early stages of the demographic transition. Because increasing proportions of infants and children were surviving, the number of children women had to rear increased. This enlargement in the child-rearing tasks was occurring when fathers were increasingly working away from home and, as pointed out above, families no longer were living near other relatives. The independent nuclear family consisting of parents and children became more and more the norm.

As long as fertility remained high and increasing numbers of babies survived, women, no doubt, found themselves more and more confined to their homes. Consequently, they were less able to take advantage of the economic and social opportunities that the Industrial Revolution afforded. Only when fertility was reduced could women begin to resume an economic and social role in society.

Another consequence of changes in population structure is the phenomenon popularly referred to as the "marriage squeeze."<sup>28</sup> Declines in mortality, increases in fertility, or changes in the rate of migration tend to create an imbalance between the sexes in the prime ages of marriage. Declines in mortality over a period of years while fertility remains fairly high and stable produce successive increases in the number of males and females surviving to marriageable ages. Since women in most societies marry men somewhat older than themselves, declines in mortality tend to produce an excess of women in the marriageable ages, the supply of potential husbands having been born in a period of higher mortality.

Likewise, an increase in the rate of male outmigration from an area may create an excess of females of marriageable age. Because the rates of male migration tend to be particularly high in the late teens and early twenties, the supply of potential husbands may be considerably reduced.



Both of these phenomena, declining mortality and high rates of male outmigration, were experienced by many of the industrializing countries in the West during the nineteenth century. It is not surprising, therefore, that Great Britain's census data for the period of 1851 to 1901 indicate a surplus of women in the marriageable ages. For this period, sex ratios<sup>29</sup> within the marriageable ages were typically 90 or below.

It appears that in Great Britain the major accommodation to the deficit of marriageable males was a slight increase in the proportion of women who remained single. For example, between 1851 and 1901, the proportions of single women in Great Britain increased from 14 to 17 percent. In Sweden between 1800 and 1910, the proportions of single women aged 45 to 49 rose from 12 to 22 percent. In contrast, the United States during the nineteenth century had a high sex ratio as a result of heavy male immigration. Such older settled areas as New England, however, apparently suffered a shortage of males in the marriageable ages, attributable to high rates of outmigration to the West. Thus, high rates of spinsterhood were not uncommon in many communities of New England.

An increase in fertility may also contribute to a marriage squeeze. Currently the United States appears to be experiencing this phenomenon. The number of males in the marriageable ages has been decreasing as a result of the upturn in fertility that began in the late 1930s. Births continued to rise until 1947 and remained at a high level for the next decade. Whereas in 1950 the sex ratio in the prime marriage ages was 104.2, by 1956 it had dropped to 97.1, and by 1962 the sex ratio had further decreased to 85.0. By 1970 it had recovered somewhat and was 97. But not until the late 1970s will the number of males exceed the number of females as a result of the declines in fertility that began in 1957.<sup>30</sup> The slight increase in age at marriage for females that has occurred since the late 1950s in the United States probably reflects the increased difficulty of females in finding marital partners of the suitable ages.<sup>31</sup> Whether or not the current marriage squeeze will result in an increase in proportions of females remaining single in the United States remains to be seen.

The increases in the proportion of women remaining single as a result of the marriage squeeze during the nineteenth century in industrializing countries held certain implications for the roles and status of women. No longer was it certain that all girls would eventually marry. Hence, parents had to find a means of support for their daughters as well as their sons. For wealthy parents this could be secured by insuring the inheritance rights of their daughters. For middle-class parents the solution lay in providing an adequate education for their daughters to enable them to earn a living. Thus, not only were changes in laws pertaining to property rights of women enacted, but an increasing concern with

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the education of females was voiced as the nineteenth century progressed.<sup>32</sup> For daughters of the working class the need was simply to work. That they found work in the factories of the expanding industrial economy is not surprising.

Increasingly, therefore, many women entered marriage with some education and some working experience. By the early part of the twentieth century, the pattern of young single women working until marriage appears to have become firmly established. Yet it still was not accepted for married women to work. Many women, having tasted a certain amount of independence, must have found it difficult to adjust to the dependent role of wife. Thus, another element of strain in the marital relationship was introduced.<sup>33</sup> Since the marital role itself had become less demanding, particularly in terms of childbearing, it is not surprising that women developed feelings of uselessness, felt a loss of self-esteem, and began demanding an improvement in their status. Thus the movement for the emancipation of women in the early twentieth century found fertile ground among the better educated middle-class women who were restricting their family size.<sup>34</sup>

Indeed, O'Neil argues that it was "the emergence of the nuclear family" that produced the pressures for the early feminist movement.<sup>35</sup> The increasing isolation of women in the nineteenth century who were more and more cut off from the mainstream of life as industrialization progressed has already been alluded to.

### *Recent History: The Baby-Boom Period*

As is well known, the United States in the 1940s saw a reversal in the long downward decline in fertility. Fertility increased and remained at a relatively high level until the late 1950s. The factors that contributed to this rise in births are as yet poorly understood, and the period may represent a demographic anomaly. In these years contraceptive practice was becoming more prevalent and American women were continuing to increase their labor force participation. Both these factors should have militated against any increase in fertility.

Why the baby boom? The answer perhaps lies in the particular position the family occupies in relation to other social institutions in American society.<sup>36</sup> We have already seen that one of the results of industrialization, urbanization, and demographic changes was the emergence of the isolated nuclear family. Coupled with the value of individualism in American society, only within the nuclear family could individuals find emotionally satisfying relationships. Viewed in this light children became an ever more important source of love and affection. Thus, perhaps the baby boom was a massive response to the

growing impersonality of American society and the impersonal threats of the modern nuclear world.

What were the consequences for women? Here we may be more concrete. First, if family life was so highly desirable and viewed as an escape from the seemingly intractable problems of a technological society, the answer was to marry young and to found a family early. This women did in increasing numbers. The age of marriage fell and women had their first child at a relatively young age. It is not surprising, therefore, that the status of women declined. In terms of educational attainment, American women, who prior to World War II tended to be slightly better educated than men, now ended up being less well educated than men. This deterioration in the relative educational attainment of women became most pronounced in terms of achieving a higher education.<sup>3</sup>

Although more women married, married earlier, and increased slightly the number of children they were having, married women increased their labor force participation at an unprecedented rate. Among white married women, the rate increased from 12.5 in 1940 to 29.7 in 1960. For nonwhite married women the increase was from 27.3 to 40.7.<sup>38</sup> Although the increases were greatest for white married women over age 35, significant increases were recorded for women below age 35. What was surprising was the fact that the increases in labor force participation rates of married women with young children outpaced the increases of women with no children.

Such evidence suggests that more and more American women were combining their roles of wife and mother with an economic role. Clearly the roles of American women were changing. Likewise, fundamental changes were probably occurring in the relationships of men and women and in the division of labor between the sexes within and even outside the family.<sup>39</sup>

Plausible, also, is that the slight increase in family size was itself a force that propelled many women into the labor force. Given the aspirations for relatively high levels of living, families found they could not acquire the material things they considered so necessary once they had three or four children. A wife's **labor** force participation possibly also had become an ever more significant avenue for social mobility in the United States. At the very least, it offers a vehicle for attaining a certain measure of conspicuous consumption. **If** the wife works the family may be able to afford the more visible symbols of success, such as the home at a better address, the second car, the college education for one's children, and the expensive vacation. **In** fact, as an analysis by Jaffe indicates, if family income is to continue to increase once the husband reaches middle age, the wife must work.<sup>40</sup>

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Alternatively, many women having committed themselves to marriage and childbearing in their late teens and early twenties may have found the mother role somewhat less desirable than they had idealized it. Moreover, it was just during the period of the baby boom that American families moved increasingly to the suburbs. As desirable as it may have been for the children, suburban living only increased the isolation of American women. Even with all the labor-saving devices available in American homes, caring for children alone in geographical and familial isolation was more than their mothers or grandmothers had faced. Accordingly, many women may have entered the labor force for social stimulation as well as financial gains.

Yet these women entered the labor force with virtually no support from society. By doing so, they had assumed two roles that could be equally demanding. Although a working wife might receive more help from her husband in household and child-care tasks, she still was expected to bear the major responsibility for running the home and to be immediately available when her children needed her.

The above line of reasoning suggests why the United States has recently seen a resurgence of the feminist movement. Now, however, it is not a movement for rights but for liberation. No longer is the right to vote or the right to work in question. Women now demand freedom from the restrictions of women's familial roles. The central demands of the current movement are for the end to all discrimination against women in hiring and promotion in the occupational world, for child-care facilities, and for abortion on request. These demands are central to the roles American women both expect and fill today. The current movement—as was the nineteenth and early twentieth century movement—is confined principally to the more highly educated segment of the female population. Many of the early leaders of women's liberation movement were precisely those women approaching or already in middle age who had participated most fully in the baby boom. The movement, however, appears to have attracted increasing numbers of women in their early twenties. The marriage squeeze mentioned earlier may have contributed to this. Women who postpone marriage are more likely to continue their education, increase their occupational aspirations, and thus feel blocked when they encounter job discrimination. To some extent, moreover, their vociferous support may spring from a realization that they do not want to spend their twenties and thirties as their mothers did — nor do they look forward to the emptiness of the forties and fifties of their mothers.

If feminism is, in fact, a direct consequence of the baby boom, as suggested here, the possible implications of the success of this movement for American

society warrant further consideration. Certain probable consequences of this movement will, therefore, be examined in the final section of this paper.

*The Effects of Future Demographic Change*

The examination of past demographic changes has indicated a number of consequences for the roles and status of women. What may be expected in the future? Here we may only speculate although certainly past trends will continue. Demographic changes in the future will undoubtedly continue to have an effect on the roles and statuses of women. Already two scientific discoveries appear imminent, and consequently are possible sources of future demographic change.<sup>41</sup> These are first, the development of a perfect contraceptive technique, and second, the possibility that couples will be able to predetermine the sex of their children. Both of these discoveries are likely to contribute to a slowing of population growth.

But regardless of whether or not such discoveries are made, the eventual achievement of stability in population numbers, popularly referred to as "Zero Population Growth," may be an absolute necessity. At least this is a view held by many. In fact, Davis has pointed out that the increase in numbers has reached a "climax" and "that a change in trend probably in this century is inevitable."<sup>42</sup> The possible implications of these three changes will be explored in this final section of this paper. In addition, some of the implications of the women's liberation movement will be discussed since it appears to be so intricately linked with future demographic change.

*The Perfect Contraceptive<sup>43</sup>*

The most immediate consequence of the availability of perfect contraception would be that couples would have only the number of children they want. In the United States, where most couples attempt to control their fertility,<sup>44</sup> approximately one-fifth of all births in the period 1960 to 1965 were estimated to be unwanted.<sup>45</sup> Accordingly, the availability of a perfect contraceptive suggests a decline in family size. Since most illegitimate births are also unwanted, another implication of perfect contraception would be the virtual elimination of illegitimacy with its concomitant social and economic problems for such mothers, children, and, of course, society. Clearly the implication is that women would not longer have unwanted children.

Another aspect of perfect contraception would be the achievement of more perfect timing in births. One estimate indicated that, for the period 1960 to 1965, fully two-fifths of wanted births would have occurred at a time other than

they did if the couples had been completely successful in controlling the timing of all births. Births were defined as timing failures when they occurred earlier than the couples desired.<sup>46</sup> But many couples have births occurring later than desired, as a result of low fecundity. Obviously to obtain perfect timing, the problems of low fecundity and infecundity would have to be solved also.

Furthermore, with a perfect contraceptive there could be a reduction in premarital conceptions. For the period 1964-66, 22 percent of first births occurred to American women married less than eight months.<sup>47</sup> If most of these births are assumed to be premarital conceptions, such conceptions are undoubtedly a factor in determining the timing of marriages.

Assessment of the effects on age at marriage are particularly hazardous. Indeed, the availability of a perfect contraceptive could lower the age at marriage even more, since couples would not have to fear a pregnancy earlier than desired. Already the United States, in comparison with other developed countries, has the youngest age at marriage. Some have speculated that this early age at marriage is but a reflection of the widespread availability of contraceptives, the willingness to use them, as well as affluency. Given continued prosperity, the perfect contraceptive could push age at marriage down even further. Alternatively, such a development could remove one of the constraints on premarital sex and lead to greater permissiveness in sexual relations outside of marriage. Age at marriage might, therefore, increase since couples would postpone marriage until they were ready to begin having children. More revolutionary would be the complete disappearance of marriage in that women might opt to have children and support them themselves. Already the trend of adoption of children by single individuals points in this direction.

Premarital conceptions tend to be concentrated among young women; fully 65 percent of first births that occurred less than eight months after marriage were to women under 20 years of age.<sup>48</sup> This, too, suggests that development of perfect contraception may cause an increase in age at marriage. Because youthful marriages are more prone to marital disruption,<sup>49</sup> such a consequence could produce greater marital stability.

Noteworthy, also, is the fact that data from a number of studies indicate that one consequence of a premarital pregnancy for a woman is the discontinuance of her education.<sup>50</sup> As Campbell has pointed out: "The timing of the first birth is of crucial strategic importance in the lives of young women, because the need to take care of a baby limits severely their ability to take advantage of opportunities that might have changed their lives for the better."<sup>51</sup> Among the opportunities Campbell lists are obtaining an education, acquiring vocational skills, and having an occupation. In other words, an early first birth has a number of deleterious consequences for a woman's eventual status in nonfamilial

roles. Moreover, early first births have been shown to affect the woman's role in decision making within the family. The longer a first birth is delayed, the more the wife participates in familial decision making.<sup>52</sup> Accordingly, the wife who participates likely enjoys more equality with her husband within the family. At a more general level, it has been suggested that the delay of any birth permits a woman to acquire nonfamilial roles that may be incompatible with having a child in the future. The eventual result of postponing a birth may, therefore, mean its postponement forever.<sup>53</sup>

In view of the fact that a delay in a birth often means postponement forever, it is difficult to judge what the effects of perfect contraception would be on the spacing of births. Most likely the interval between marriage and the first birth would increase. More women might also decide never to embark upon childbearing, having found alternative satisfactions in work roles. A by-product could, therefore, be a slight increase in the rate of childlessness, since the longer the period of postponement, the more likely some women would become sterile. Whether or not the intervals between successive births would be increased is, however, doubtful. Given perfect contraception and a relatively small desired family size, most women once they begin childbearing might choose to space their births quite closely together. The shift to shorter spacing between births was the pattern in the 1940s and the 1950s. So far there is no evidence that American women have decided to space successive births further apart than in the 1940s and 1950s. What is more likely, therefore, is that (1) the average age of mothers of first births will increase, and (2) some increase in childlessness will occur. The increase in age at first birth should, however, be offset by the decrease in family size. Thus, if women having only two or three children maintain a rather short spacing pattern between births, the average age at completion of childbearing will remain approximately what it was in recent decades.<sup>54</sup>

It is possible, also, that the perfect contraceptive would lessen the need for induced abortions since women would no longer become accidentally pregnant. With advances in education and health care, coupled with the availability of a perfect contraceptive, fewer women should experience pregnancies that do not result in wanted, healthy births. Likewise, the need for abortions for purely therapeutic purposes might be lessened.

The availability of a perfect contraceptive technique, however, does not necessarily imply that all women would utilize it. Nor does its availability mean that women would resort to its use for purposes of restricting their fertility. Most American couples have been reported to want a family of two to four children.<sup>55</sup> In a 1971 Bureau of the Census survey, however, wives 18 to 24 years of age reported expecting an average of approximately 2.4 children.<sup>56</sup> This is a

shift downward from the 2.9 children expected by women of the same ages in a 1967 survey and may indicate a real swing toward the two-child family.

*The Predetermination of the Sex of Children*

If couples were able to choose the sex of their children the probably demographic and social consequences for women would depend, first of all, on the preferred sex composition of their families. Evidence for industrialized societies indicates that the vast majority of couples want children of both sexes.<sup>57</sup> On the other hand, data for developing countries, particularly those of non-Western cultures, indicate a strong preference for males.<sup>58</sup> It is possible, however, that as such countries industrialize, preferences will shift to a desire for children of each sex. Freedman has argued that the preference for one sex over the other has diminished since the economic importance of sons is no longer a relevant consideration in industrialized societies.<sup>59</sup> Currently, however, the desire for at least one son appears to be universal, even in the United States.

A number of students, noting this strong desire for male children, have attempted to estimate what the effects on the sex ratio would be if a method for predetermining the sex of a child were available. Etzioni estimates that the sex ratio would rise from the normal of about 105 to 121, indicating that a serious imbalance between the sexes would eventually result.<sup>60</sup> The shortage of females, he has speculated, would produce an increase in the proportions of males remaining single, and an increase in prostitution and homosexuality. The likely effects on women, however, are not touched upon.

The situation of a surplus of males would, of course, be the exact opposite of the marriage squeeze phenomenon previously discussed. As suggested, the past effect of a surplus of females was probably to raise women's status since many women had to seek their satisfactions outside the family. One could, of course, argue that a deficit of females in a society would lead to the attainment of a higher status because their relative scarcity would increase their value. Nevertheless, it appears more reasonable to suggest that females would marry at earlier ages and, therefore, be cut off from the opportunities of developing the skills whereby they could participate in the economic and social life of societies.

Alternatively, if one assumes that most couples, given the ability to determine the sex, would choose to have only one or two children, sex determination could perhaps contribute to greater equality between the sexes. A few studies have indicated that couples desire at least one child of each sex. Accordingly, preference regarding the sex of children, although minor, has a significant effect on eventual family size.<sup>61</sup> Consequently, the childbearing period might



be restricted to an even shorter period of time, and women would be freer to pursue nonfamilial roles on a more continuous basis.

### *Zero Population Growth*

As yet no large population for any relatively long period of time has experienced a zero rate of growth or undergone a decrease in numbers. For a population to cease growing under conditions of low mortality, the average number of children per couple must be reduced to approximately two. Hence, the attainment of zero growth would have to be coupled with the desire for a relatively small family.

There are many different paths that a population might take toward achieving such a goal. Many women could remain unmarried and presumably childless. Alternatively, substantial numbers of married women could choose to remain childless or have no more than two children.<sup>62</sup> Indeed, the variability in family size could be very great even in a society in which stability in numbers occurs. One may, in fact, visualize a society in which a minority of women specialize in childbearing and child-rearing, with the vast majority of women participating, like men throughout their adult lives, in economic activities.<sup>63</sup> Mead, in discussing such possibilities, suggests that one consequence would be that most persons in a society ". . . would be free to function-for the first time in history-as individuals."<sup>64</sup>

The period of transition to a zero rate of population growth would likely have certain effects on the roles and status of women. During such a period, there would be an adequate number of potential husbands for women. Thus, there would not be any marriage squeeze and there might, in fact, be a surplus of husbands. This latter effect would be particularly true if women continue to look for husbands slightly older than themselves. Declining fertility would, of course, be responsible for such effects. Perhaps the availability of husbands for all women would mean that women's status could decline, as apparently occurred in the post-World War II period when most women married at relatively young ages. Perhaps, however, different conceptions of women's roles would counterbalance such a tendency.

In the transitional period, also, there would most probably, and perhaps inevitably, be a greater need for women to participate more fully in economic activities than at present. This would be particularly true if the economy continued to expand. The requirement for increased female labor force participation would arise primarily from the fact that society would be faced with a gradually smaller proportion of its population in the younger economically productive ages of 15 to 30. Such a society could ill afford the luxury of under-

utilizing females at these ages. It is possible, also, that the trends toward shorter work days, shorter work weeks, as well as earlier retirement, might further necessitate the increased employment of women. A conflict might arise between early marriage and childbearing, and the greater need for young women in the labor force. Clearly some resolution to the conflict would be needed. The answer may lie in the achievement of many of the goals of the women's liberation movement.<sup>65</sup>

*Women's Liberation and Population Change*

The ideology of the women's liberation movement presents a number of conflicts in terms of its possible impact on population growth. On the one hand, a number of arguments against marriage and childbearing are made. On the other hand are the demands for maternity leaves and child-care facilities. If large numbers of women reject marriage and childbearing, fertility will certainly decline. But would the availability of maternity leaves and child care lead those women who do choose the wife and mother roles to increase their fertility? Unfortunately, there exist little data on which to base an examination of any of these issues.

Are the family and childbearing likely to be rejected in the future? Given the important role of emotional and psychological support that the family has come to perform in highly complex industrialized societies, it does not appear likely that large groups of men and women will cease to seek satisfactions within marriage and through their children. The crucial question, however, for population growth is how many children. Here the demands of women's liberation for more satisfactory roles for females outside the family may have some bearing. If women could plan for and expect occupations and rewards similar to men, they might forego childbearing altogether or at least the excess fertility of the third and fourth child. If the speculations of Hoffman and Wyatt are correct, many women during the 1940s and 1950s had a third or fourth child for purposes of justifying themselves in the role of mother.<sup>66</sup> They argue that because the content of housekeeping tasks declined and the role of employed worker offered little in the way of creative satisfactions or status, many women opted to have additional children.

What if all females were socialized at an early age to assume an economic role, as the new feminists suggest? While the conditions in the Soviet Union may not be entirely equated with those in the United States, it is one society where there is an almost universal assumption that women will fill an economic role. In urban areas of the Soviet Union, practically 100 percent of women are in the labor force. Most women do have children. But very few have more than

one or two. For example, in one survey of women employed in several Moscow plants in 1966, women married at least 15 years were reported to have an average of 1.7 children and to desire an average of only 1.8 children.<sup>6</sup>

One may speculate, also, that the form of the family may change. In the long perspective of human history the isolated nuclear family is a relatively new phenomenon. Experimentation with other types of familial groupings is already underway, albeit confined to a tiny minority of the American population. Given the perfect contraceptive and meaningful alternative roles to that of motherhood, forms of marriage and family structures undreamed of may evolve. But the seeking of close, intimate relationships between the sexes is unlikely to disappear.

A question may be raised, however, concerning the feminists' objective of providing "meaningful alternatives to motherhood" in the occupational world. Is most work meaningful in industrialized societies? The answer appears to be "no." The disappearance of the "instinct of workmanship," to use the Veblenian phrase, with industrialization has created problems in the content of work for most men. If work for most of the population ever had meaning, which is in itself questionable, the assembly line or the huge impersonal office certainly does not offer much in the way of interesting and challenging work or stimulating environment. When one examines carefully the rhetoric of the feminists concerning the provision of meaningful work opportunities for women, one is quickly led to the conclusion that it is the professional occupations that are being referred to. This is not surprising since, as already noted, most members of the women's liberation movement are drawn from the well-educated professional classes.

Yet if work in modern society lacks any intrinsic rewards for so many, perhaps one solution to the boredom and the "quiet desperation" most men feel in their jobs would be for all women to share more equally in the burden of economically productive work. In fact, this would perhaps permit the work week to be shortened and the vast majority of men and women to seek satisfactions in the more creative nonwork spheres of life. One by-product of such an arrangement would be a lessening of the isolation of women within the nuclear family. Perhaps, in addition, if life were made more meaningful to both men and women, couples would not seek their main sources of satisfaction in their children.

To make it possible for more women to work a certain restructuring of the childbearing and child-care functions of women would have to be undertaken by society. The provision of maternity leaves and child-care facilities would, of course, facilitate greater work participation by women.

What would be the effects of these measures on the fertility levels of a so-

ciety? Unfortunately, to answer this question, or even whether more women would be induced to work, a number of detailed studies should be undertaken. Yet some parallels exist in the effects on fertility of the family allowance schemes prevalent in several European countries. The hope and explicit purpose of many of these programs was that fertility would be increased since one of the major constraints on childbearing was believed to be economic. On similar grounds, the argument could be made that the provision of child-care facilities would encourage women to have more children since another important constraint on reproduction would be removed. But the family allowance schemes have had no discernible effect on fertility.<sup>66</sup> Furthermore, in many of the countries where these schemes have long been operating, more extensive child-care facilities and provision for maternity leaves have also been available. Thus, apparently removing such constraints on having children does not necessarily encourage women to have more children.

Yet, the issue in slowing population growth is to induce women to have fewer children. While it may be argued that provision for maternity leaves and child-care facilities will not increase fertility in and of themselves, they will surely not induce women to have fewer children.

Children, however, apparently satisfy a wide range of needs and thus have values over and above those of work. As the Hoffmans point out, the provision of child-care centers could "backfire" in that a significant "barrier" to fertility would be removed. This would be particularly true, they argue, for women who do not have the education that would permit them to hold interesting and satisfying jobs. Thus, such women would continue to look for their satisfactions in their children. Once one of the major costs of having children was removed, they might even have more children than they do now. Also, the Hoffmans speculate that there would still be women who do not choose to or want to work. For these women, the provision of child-care facilities might lead them to have more children since they would have to justify, even more so, their sole role as mother.<sup>69</sup>

Nevertheless, the decision to have a family of a certain size appears to be based on and influenced by a large number of factors. The availability of child-care facilities is but one of these factors. Whether it is a major or minor factor is not known. Accordingly, the difficulties of estimating the probable impact of this one factor on the decision to have a certain size family is hazardous indeed. The experience of European countries with child-care facilities would argue against increases in fertility.

Clearly the issues that the women's liberation movement raises regarding the proper roles of women are issues that pertain also to the proper roles of men. The challenge of the next decades will be how to meet these issues.

*Conclusions*

This paper has attempted to explore some of the consequences of population change for the roles and status of women. The implications of such changes in the past and for the future have been examined. Clearly an entirely new set of factors will have some impact in the future. At this point it is difficult to assess the magnitude of future changes, the rapidity with which they will occur, and their significance for the lives of American men and women. Adjustments and changes in the family and the roles of men and women, however, appear not only imminent but absolutely necessary.

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2. Recently, this view has been succinctly argued by O'Neil on the basis of the work of the French historical demographer, Aries; William O'Neil, *The Woman Movement: Feminism in the United States and England* (New York: Barnes and Noble, 1969), pp. 3-5; Philippe Aries, *Centuries of Childhood: A Social History of Family Life* (New York: Vintage Random House, 1962). This view for colonial America is also supported by the work of Demos and Greven; John Demos, *A Little Commonwealth: Family Life in Plymouth Colony* (New York: Oxford University Press, 1970), pp. 84-99, and Philip J. Greven, Jr., "Family Structure in Seventeenth Century Andover, Massachusetts," *William and Mary Quarterly-3rd Series*, 1966, Vol. 33, pp. 234-256. This point was also previously made cogently by Alva Myrdal, *Nation and Family: The Swedish Experiment in Democratic Family and Population Policy* (New York: Harper and Brothers, 1941), p. 419.

3. A. J. Jaffe and Charles D. Stewart, *Manpower Resources and Utilization: Principles of Working Force Analysis* (New York: John Wiley and Sons, 1951), pp. 352-353.

4. Mary Sumner Benson, *Women in Eighteenth-Century America* (New York: Kennikat Press, 1966).

5. Kathleen Gough, "The Origin of the Family," *Journal of Marriage and Family Living*, 1971, Vol. 33, pp. 760-771.

6. Parsons, in his now classic paper in which he discusses the types of female roles open to American women, identifies this lack of an independent occupational status by American women as an important source of strain and stress in the relationships between the sexes in the United States. Talcott Parsons, "Age and Sex in the Social Structure of the United States," *American Sociological Review*, 1942, Vol. 7, pp. 604-616.

7. For 1890 the rate is for females 14 years of age and over; A. J. Jaffe and Charles D. Stewart, *op. cit.* p. 164. For 1970 the rate is for females 16 years of age and over, U. S. Department of Labor, Bureau of Labor Statistics, *Employment and Earnings (Monthly)*, 1971, Vol. 18, No.6, p. 28.

8. A large number of factors has been identified by demographers and sociologists as contributing to the decline of fertility. Compare Ronald Freedman,

"The Sociology of Human Fertility," *Current Sociology*, 1961, Vol. IO-II, pp. 53-57; Norman B. Ryder, "The Character of Modern Fertility," *The Annals of the American Academy of Political and Social Science*, 1967, Vol. 369, pp. 26-36; and Ansley J. Coale, "The Decline in Fertility in Europe from the French Revolution to World War II." in *Fertility and Family Planning: A World View*, S. J. Behrman, Leslie Corsa, Jr., and Ronald Freedman, eds. (Ann Arbor: University of Michigan Press, 1969), pp. 17-18.

9. The expectation of life at birth is the average (mean) number of years lived by a population assuming that age-specific death rates remain constant.

10. Conrad Taeuber and Irene B. Taeuber, *The Changing Population of the United States* (New York: John Wiley and Sons, 1958) p. 269.

11. D. V. Glass, "Introduction," in *Population in History: Essays in Historical Demography*, D. V. Glass and D. E. C. Eversley, eds. (London: Edward Arnold, 1965). p. 21.

12. United Nations, *Demographic Yearbook*, 1967, p. 714, and *Demographic Yearbook*, 1970, p. 718.

13. Donald J. Bogue, *The Population of the United States* (Illinois: The Free Press of Glencoe, 1959), p. 191.

14. U. S. National Center for Health Statistics, *Vital Statistics of the United States*, 1965, Vol. II, Section 5-*Life Tables*, pp. 5-10.

15. Alva Myrdal and Viola Klein, *Women's Two Roles* (London: Routledge and Kegan Paul, 1956), pp. 37-38.

16. In making these estimates, it has been assumed that marriages are not broken by divorce and husbands are exactly five years older than their wives.

17. Paul C. Glick and Robert Parke, Jr., "New Approaches in Studying the Life Cycle of the Family," *Demography*, 1965, Vol. II, pp. 187-202.

18. A life expectancy of 43 years is, of course, typical of preindustrial societies. This fact suggests one of the reasons that widows had more responsibility in economic matters in such societies.

19. Irene B. Taeuber, "Change and Transition in Family Structures," in *Fogarty International Center Proceedings No.3: The Family in Transition* (Bethesda: International Institutes of Health, 1971).

20. Elizabeth Janeway, *Man's World, Women's Place: A Study in Social Mythology* (New Jersey: William Morrow and Company, 1971).

21. Kingsley Davis, "The World Demographic Transition," *The Annals of the American Academy of Political and Social Science*, 1945, Vol. 237, p. 5.

22. Lincoln H. Day, "Age of Women at Completion of Childbearing," *Public Health Reports*, 1958, Vol. 73, pp. 525-532, and Norman B. Ryder, *op. cit.*

23. This statement is true only to the extent that abortion is not relied on as the principal means of fertility control. Unlike contraception, which delays con-

ception, abortion does not postpone conception. Consequently, when abortion is the major means of fertility control women experience many more pregnancies.

24. Paul C. Glick and Robert Parke, Jr., *op. cit.*

25. The slight increase in the age at which women born in 1920-29 had their first birth probably reflects the fact that many of these women were separated from their husbands during World War II. At that time, these women were in their early 20's.

26. Kingsley Davis, "Statistical Perspective on Marriage and Divorce," *The Annals of the American Academy of Political and Social Science*, 1950, Vol. 272, pp. 9-15.

27. Clyde V. Kiser, Wilson H. Grabill, and Arthur A. Campbell, *Trends and Variations in Fertility in the United States* (Cambridge: Harvard University Press, 1968), pp. 104-112.

28. Donald S. Akers, "On Measuring the Marriage Squeeze," *Demography*, 1961, Vol. 4, pp. 907-924.

29. The sex ratio is defined as the number of males per 100 females.

30. David Goldberg, "Fertility and Fertility Differentials: Some Observations on Recent Changes in the United States," in *Public Health and Population Change: Current Research Issues*, Mindel C. Sheps and Jeanne Clare Ridley, eds. (Pittsburgh: University of Pittsburgh Press, 1965), pp. 119-142.

31. It should be recognized that even with a serious disproportion between the sexes, most women may eventually marry. First, they may simply delay marriage and eventually marry men who have become widowed or divorced. Secondly, women may elect to marry men closer to their own age or even younger. Hence, the average age differential between spouses will decline. For a detailed discussion, see J. Hajnal, "European Marriage Patterns in Perspective," in *Population in History: Essays in Historical Demography*, D. V. Glass and D. E. C. Eversley, eds. (London: Edward Arnold, 1965), pp. 101-143.

32. It should be recognized that there were other very cogent reasons for educating females in industrializing societies. As indicated, women had to assume almost completely the task of child rearing and home management. Since, clearly, sons had to be educated, illiterate mothers could hardly be expected to train their sons properly. Increasingly, also, consumption within the home depended on a market economy-an illiterate housewife could not be expected to obtain the necessary provisions for the home. In addition, the trend toward companionate marriages probably had some effect. Moreover, it must be remembered that education until the Industrial Revolution was confined almost to a tiny minority of a population, namely, the upper classes. Only with the advent of industrialization was it necessary for education to be extended to the lower classes. Prior to industrialization, whether or not one was educated ap-



pears to have depended more upon an individual's social class position than on the individual's sex. See Viola Klein, *Britain's Married Women Workers* (London: Routledge and Kegan Paul, 1965), pp. 10-11.

33. Alva Myrdal, *op. cit.*, pp. 423-426.

34. Viola Klein, *op. cit.*, pp. 1-20.

35. William O'Neil, *op. cit.*, p. 5.

36. This hypothesis is a restatement of the general hypothesis stated by Ronald Freedman that "fertility differences are related to differences in the division of labor between the family and other social institutions," Ronald Freedman, "The Family Function Approach to Fertility Studies" (unpublished paper, 1954).

37. For a detailed analysis of changes in the educational attainment of American women see Jeanne Clare Ridley, "The Changing Position of American Women: Education, Labor Force Participation, and Fertility," in *Fogarty International Center Proceedings No.3: The Family in Transition* (Bethesda: National Institutes of Health, 1971).

38. *Ibid.*

39. Murray Gendell, "Women's Labor Force Participation Rates in the United States 1940-66: Facts and Implications," *International Population Conference, London 1969* (Belgium: International Union for the Scientific Study of Population, 1971), Vol. 3, pp. 1620-1625.

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46. *Ibid.*

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48. *Ibid.*

49. Hugh Carter and Paul C. Glick, *Marriage and Divorce: A Social and Economic Study* (Cambridge: Harvard University Press, 1970).

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64. Margaret Mead, "The Life Cycle and Its Variations: the Division of Roles," *Daedalus*, 1967, Vol. 96, pp. 871-875.

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## CHAPTER TWO

# GETTING A JOB IN FEDERAL SERVICE- WITH SPECIAL ATTENTION TO NATURAL RESOURCE PROFESSIONS AND THE B.L.M.

by  
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Federal Women's Program Coordinator  
Bureau of Land Management  
Department of the Interior

My remarks today are going to be directed primarily to women, but I am happy to see that males also are in the audience-perhaps to challenge my remarks, perhaps to become better informed about government employment.

My comments will actually be instructions on how to seek and qualify and become employed in the federal government and most specifically the Bureau of Land Management.

The Bureau structure includes eleven Western states, our Washington headquarters, an Eastern States Office at Silver Spring, Md., and several Outer Continental Shelf Offices (New York, Los Angeles and New Orleans). I am the Bureau's Federal Women's Program Coordinator, which means I have Bureau responsibility for the program of hiring and advancing women in our employment. My major task has been to inventory the women we now have as to their backgrounds and skills. In addition I have travelled throughout our eleven Western states meeting BLM managers and encouraging them to hire women professionals at entering levels. I might say that the atmosphere has never been better for the woman who has a background in natural resources than right now. The managers are willing and eager to hire women professionals and the positions are available for those qualified. At this point, I might say that this attitude is long over-due.

There are almost a thousand women employed in the Bureau as compared with 3,000 males. Of all the nearly 1,000 women, only 8 are at the executive levels making more than \$20,000 per year and two of these are attorneys. Women in the Bureau are pretty much at the bottom of the ladder in the Bureau; the average grade is about GS 5.8. We are striving for a substantial increase in the numbers of women entering at our professional levels. This emphasis on the

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hiring of women is part of the administration's program to bring women into the government on an equal basis with men and not just in the traditional roles of secretaries and clerk-typists.

I know that none of you here today considers the women's lib movement anything new. It has surfaced from time to time during this past century. Likewise it seems to have been buried from time to time. But now the law says that women are liberated and women are beginning to believe it. Before I prepared my remarks for today I searched to find an example of a woman who was an early women's libber or a feminist in the field of conservation. It was not difficult because there is a name that is familiar, I am sure, to all of you who are involved in forestry.

That name is Gifford Pinchot. Gifford Pinchot's wife, Cornelia Brice Pinchot, was a feminist of her time. Very early she began a social welfare career in the State of New York and when her husband was Governor of Pennsylvania, Cornelia marched with striking miners in that State. Apparently Cornelia had flaming red hair and she chose to wear matching flaming red dresses (which she did when marching with the strikers). A male, chauvinist State Senator in Pennsylvania, from the floor of the Senate, intimated, according to the story, that because Mrs. Pinchot was wearing red, it was probably indicative of her communist leanings. Governor Pinchot identified the man publicly and stated that if the Senator did not retract his statement about Mrs. Pinchot, he, the Governor, would personally horsewhip him.

Cornelia Pinchot provided for the Annual Conservation Award. When she set up the provisions for the Award she very clearly spelled out that a woman could not be ruled out for consideration for choice as conservationist of the year. However, to date no woman has ever received the award. Hopefully, we will make that another first soon for us ladies.

Before I get into the how's of employment with the Bureau of Land Management, I want to mention that I have a supply of literature and forms with me today for distribution to those interested. Among these forms is the standard government application form, known in the bureaucracy as a "171." Those of you who have ever been employed by the government know that a "171" is a must. It is the first thing one does—fill out the vital statistics. I also have with me the unassembled examination announcement #421-biological sciences—which would apply to most of the professional jobs available in the Bureau of Land Management. Here also are some typical vacancy announcements identifying positions for which we are now recruiting. I will be most happy to discuss these with you in private meetings later in the day.

A brief rundown of the Bureau of Land Management. We are a Bureau within the Department of Interior. You mayor may not be aware of the fact that the

public lands that we manage in the Bureau are part of the original public lands of the United States still under federal ownership, those lands which have not been set aside for National Forests or for National Parks. In terms of numbers of acres, Bureau lands are larger than all the other federal lands combined and they cover 452 million acres or about 115 of the land area of the U. S. In other words, the Bureau of Land Management is the largest land manager in the world. Although we have offices in Silver Spring, Md., New Orleans, La. and our Bureau headquarters in D. C., most of our work is done in the eleven Western states including Alaska. **If** you wish to begin a career with the Bureau of Land Management you will probably begin in one of the eleven Western states.

What do we manage on the public lands? Timber, geothermal energy, range lands (which are leased to private owners, but which we manage in conjunction with these private owners). We manage all of the public lands' recreation facilities, campgrounds, fishing and boating areas, snowmobiling, motorcycling, trail bike riding areas, water resources, all of our natural resources. *And* we also manage wild horses and burros! By statute, we are committed to a multi-use principal. I am sure that this is not a new concept to those of you who are studying forestry. **It** means that we must manage with consideration for the protection of soil, water recreation potential, scenic value, water resources and wildlife consideration. To do these things for the public good requires a variety of professional positions. We hire foresters. We hire range conservationists who inventory, analyze, improve, protect, utilize, and manage natural resources of range land and related grazing land. We regulate the grazing on public range lands. We develop the relationships with range users and we assist the land owners in planning and applying range conservation programs. We also employ soil conservationists who advise and supervise scientific work in a coordinated program of soil, water and resource conservation. This requires the application of a combination of agricultural sciences in order to bring about sound land use and to improve the quality of the environment. We employ social scientists, wildlife biologists, watershed experts, all of which are described in the literature I mentioned to you earlier.

There are also some exciting new positions in the Bureau of Land Management for which we are going to be recruiting. *Off-road vehicle managers*. With the increase of the use of snowmobiles and motor cycles and trail bikes on our public land, it's very obvious that we need people who can understand and manage the use of the public lands for these purposes. The person who fills this position must have some understanding of liaison with the local and state law making bodies. They must be good PR people and then obviously, they must understand the environmental factors affected by these vehicles.

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We're going to be hiring *environmental coordinators*. The National Environmental Protection Act, fondly known as NEPA, requires that every agency of government prepare an environmental impact statement on everything that's done in regard to the public land to protect public interest. The end result of this Act is an unbelievable amount of paper work for the federal agencies in preparing and coordinating these statements. The environmental coordinator position will demand the skills of an environmental specialist who understands land management. It's a beautiful new field. It's exciting and the managers all say the same thing to me, "We feel this is a field in which women can perform very well." (We may have come a long way baby, but men still have traditional points of view about what women can and cannot do.)

There is still another new area of employment with the Bureau and that is a *surface protection specialist*. With regard to strip mining, the emphasis now is on leaving the land as it was before mining. The surface protection specialist will oversee the rehabilitation of mined land back to its original appearance. **If** it has been one of scenic beauty, it will be restored. **If** it has been gravel and rock, it will be restored to its original state, or as nearly as is possible.

I've identified some of the opportunities we have available in the Bureau of Land Management. Now how does one go about applying for a position with the Bureau?

Our positions are announced via vacancy announcements which are on file with our personnel office in Washington, D. C., and are available to the public. These announcements will identify the position, its requirements, its grade level, its location and instructions for applying. There are some basic requirements for applying for a professional position with the Bureau. You must have successfully completed a full four-year course in a study leading to a bachelor degree or a higher degree from an accredited college or university with a major in a pertinent field. This course of study must have included the specific requirements for the position for which you are applying, all of which is spelled out in the vacancy announcement.

We will assume that the Bureau is interested in hiring you for an entering professional position for which you qualify. The U. S. Civil Service Commission regulations cover all positions in the federal service. After one is ruled qualified at the entering level (for professionals, usually a GS 5) one is placed on a Federal Register. This Register might be, in your case, the unassembled examination 421. This means that the Commission has evaluated your qualifications, education and experience, and has rated you. up to 100. Your numerical standing on that Register determines whether or not the Bureau can "reach" you and offer you a job.

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There is another Register from which you might be selected and that is the Federal Service Entrance Examination, known to those who work with it as the FSEE. One is placed on this Register as the result of a competitive written examination, one's standing depending on the resultant score-perfect being 100.

One must appear on a Federal Register and be reachable: that is, at the top at anyone time the Bureau requests a Register for hiring. There is one very large "catch" in this system for most women seeking employment in the federal sector. She may score as high as a 99 or 100 and still not be at the top of a Register . . . because there is a Veteran's Preference Act which automatically awards a veteran 5 additional points, or if he is a wounded veteran (that is, eligible for disability pay) he gets 10 points. Thus, the expressions 5 and 10 point veterans. Obviously, if a veteran has scored 96 on either an unassembled or a written examination, he has from 101 to 106 points to his credit, giving him a higher score than a woman can attain unless she is a veteran. This also puts him ahead of any male who has not been in the service.

This makes the recruiting and hiring of women for entering professional positions with the government a very difficult thing indeed. I have no answer to this barrier at this point in time. **If** any veteran ahead of a non-veteran on the list does not want the position in question, then there is a chance for the non-veteran to be hired. One can understand that the employment situation nationally has some bearing on women's chances particularly in obtaining entrance to the federal service. **If** jobs are plentiful, there usually aren't as many males ahead of her on anyone Register.

My advice to you women today is take the unassembled 421 examination which covers most of our professional positions or the Federal Service Entrance Examination and keep applying for positions for which you are qualified. Too many young women get discouraged and enter federal service as GS 4 secretary in order to get into federal government. Once you enter as a secretary, it is most difficult to ever get out of the "secretarial series."

Don't wait until there is a vacancy for which you wish to apply. It takes weeks to complete the process of testing, be given a score and notified of one's being placed on a Register. **If** you are interested in federal employment, complete the necessary papers as per the instructions on this 421 examination announcement and send the information to the Civil Service Commission office located in your region. Also, make arrangements for taking the Federal Service Entrance Examination by contacting the local Civil Service Commission. Be ready when the opportunity arises. I further suggest that after you have completed your examinations and you have been rated and placed on a Register, that you



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request your eligibility be sent to other Civil Service Regional Offices. It is from the Regional Registers that candidates are chosen for positions in the eleven Western states.

Let us suppose you have been reached on a Register, offered a position with our Bureau and you have accepted. What will you be paid? Currently, if you enter Federal service as a graduate student and with some experience, one might expect to enter as a GS 7. G.S. refers to General Schedule employees which indicates you are a career employee, say as opposed to a Schedule C, who is a political appointee. A GS 7, step 1 now receives \$9,969 per year. If one enters as a GS 5, usually with a Bachelor degree, the entering salary is \$8,055 per year. Federal wage levels are determined by the Federal Employees Pay Council who surveys private sector wage goals and recommends to the President.

As your career develops, after one year you are eligible for a grade increase, which would be a promotion or a step increase within your starting grade to step two. The second year you can go to step three and the third year to step four. After that point in your service, the step increases come every two years 5, 6, 7, and three years all others; each step must be approved by one's supervisor. There are a total of ten steps within each grade. General Schedule grades range from GS 1 through GS 15, and after that comes GS 16, 17 and 18 which are referred to as super grade.

If you are successful and are promoted up the career ladder one could achieve a GS 15 or above. However, as you can well imagine, as you get past the GS 9 level in government the opportunities begin to narrow. The numbers of GS 15s are relatively small and, of course, are management positions. One almost has to serve in the Washington office to get a 15. In the Bureau of Land Management we do not have a woman at the GS 15 level. I might observe that I find that many males after reaching the GS 15 level want to return to the field out west. Probably for a variety of reasons, but most especially because the GS 15 starting wage is \$28,263 and that goes a lot further in Albuquerque, New Mexico or Portland, Oregon.

I have really only touched on the basics of seeking federal government employment. It certainly is to one's advantage to know the system before entering the service. I hope I have given you some idea of the range of opportunities for women in Federal Service and particularly in the Bureau of Land Management.

## CHAPTER THREE

# POSITIVE PERSONS AND POSITIVE PROGRAMS IN NATURAL RESOURCES OCCUPATIONS

by  
Jeanne Randall  
Chief Personnel  
National Park Service

My topic today is "Positive persons and positive programs in the natural resources occupations." This subject must be viewed in the light of the environments of women working on environmental problems. I am sure that since the beginning of your program on April 18th, you have heard many presentations elaborating on this urgently timely topic.

By now you are well aware that the problems women encounter in any part of "the world of work" are very often tied closely to male chauvinism and our society's underlying theme: "Like father, like son." The theme "Like mother, like daughter" is subordinate, seldom heard, and more seldom complimentary. To say that a daughter is like her mother might suggest only that like her mother she accepts the "position that society offers her; that she accepts being less than she could be, that she accepts being an object of convenience, that she accepts participating only by invitation, that she accepts the 'honor prison' status of her life as adequate for herself and any daughters that she-in turn-might have. The present status of the natural resource occupational area is such that it can only be described as a white male reserve where 'you can't see the women for the men', though there are indeed a few, very few." It is from this vantage point that I view this area and will discuss my topic.

We are all more than well aware that the pecking order of our society today operates to keep women, all women, right where they are, and right where their grandmothers were; only a few of us escape. The usual order of dominance in our society, especially our professional society is white male, white female, black female, all other minorities (both male and female), and then the black male. We women can no longer avoid meeting the challenge that society has hurled at us, we must open every closed occupational door, we must open wider those which we find ajar. As new occupations are created women must

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be among their creators and the jobs must be designed with people, not just males, in mind.

**In** recent years, the President's Council on Environmental Quality has been making reports on the status and needs of the environment. The closest they have come to speaking of the need for involving women is in inclusion of sections of "citizen participation" or education: at best these only imply, but do not specifically mention, that women and their contributions are needed. **In** their first report in 1970 the section on education was called "Education That Cannot Wait." We can no longer hope that they will also include a section that might be called "The Sex Which Should Not Wait and Must Be Involved", we must ensure that they do.

Whether people are strong or weak has little to do with their sex. **It** is true that if you are looking for someone to lift 100 pounds you are likely to find more males than females who can qualify. But you still must look for someone who *can* lift that weight, not just for a male or female—simply a weight lifter. **In** the world of work, one of the two most important qualifications is a person's capability—that is, are they competent? Can they do the job? The other is willingness. Do they want to do the job or are they being drafted? We can no longer tolerate the great mass of myths which have accumulated over the years about the nature of work and the nature of women. Ever so often we find that a position is available which seems to require a male, but this is because males have designed the position in their own image. Such positions must be redesigned and the constraining advertising for the position must be tied to the nature of the task, *not* to the sex of the applicant.

Current statistics indicate that the 32 million women currently in the labor force comprise 38 percent of all workers, but only 13.8 percent of these women hold professional positions. **In** the past we have had few problems getting jobs in the non-professional categories; true, we received less money and fewer benefits for the equal tasks, but we could get the jobs. **In** the professional areas, more often than not, we couldn't get any position, even for less pay. **In** fact, very often we couldn't find a school which would prepare us with the specialized training required for admission to the field. **It** is our entrance into professional categories and professional advancement that is the key to general advancement for all women. The discrimination against women is strongest where the rewards are greatest. Women professionals, whether they are in the natural or social sciences, arts or business, no matter what race, color, religion, or national origin, have to assert themselves—demand their rights as human beings and settle for no less than their fair share. When the pie of employment is sliced, be there to say what slice of pie you want and what flavor it had better be. We

can't and won't sit back any longer and be told by men where our place is. Let me digress a moment to share with you a frustrating moment I had at Dartmouth Institute last July. We were having a discussion on environmental causes. I participated with thirty male, high-level executives-some with their wives-in this course. One of these male scientific geniuses stood up and declared in a loud voice that science could solve any problem given a little time. He included in this this statement female employment problems and social ills which have plagued segments of our society for centuries. When he had finished his declaration, I stood up and asked him to tum around and *look* at a problem that his science hasn't done a thing for in my lifetime as a woman and representative of two minority groups. His reply was simply, "But you are optimistic." To which I replied mad as hell, "When will science let me know when I should become pessimistic."

Have you listened to some of the so-called good reasons for not hiring women for some jobs or situations? Ever been turned down because you were too short? In the Park Service you will hear some say that women cannot be trusted alone in the wilderness with males. It seems that many natural resource projects may require employees to sleep out in rather primitive conditions. But my experience has taught me that it is hard enough for a willing person to get into a sleeping bag, let alone an unwilling person. It is time for all of us to face the real issue here: there is no end to the excuses which can be found, rented, or borrowed to minimize the participation of women in areas that are traditionally male turf, private male-only clubs.

Included in people's thinking about natural resource occupations are geophysicists, chemists, meteorologists, oceanographers, anthropologists, etc. Often overlooked are park superintendents, park rangers, community planners, environmental lawyers and other professions. The occupational outlook handbook published by the U. S. Department of Labor identifies the status of various occupations every two years. Comparing the statistics for women with those of males in any area is depressing. The situation is particularly appalling in the natural resource occupations. For example, of 23,000 geologists who were hired in 1968, only 3 percent-690-were women: in 1970 the same number were hired and women obtained four percent of the positions. Of 4,000 meteorologists hired in 1968, only 3 percent-112-were women; in 1970 only 2 percent of women were among 4,000 hired. In the life sciences, a total of 170,000 were hired in 1968 but only 10 percent or 17,000 were women. In 1970, 180,000 were hired and again only 10 percent were women. Three thousand anthropologists were hired in 1968. Of that number, 20 percent-only 600-were women and in 1970 again only 20 percent of 3,000 hired were women. In engi-

neering in 1968, 180,000 persons were hired and in 1970 1.1 million persons were hired. No statistics were available for women, but do we really need the numbers to know how few there were?

The Association of American Colleges, in its project on the "Status and Education of Women," collected statistics concerning doctorates awarded to women from 1960 to 1969. **In** three of the areas already mentioned-geology, meteorology, and anthropology-figures indicate a serious under-representation of women. During this period, 2,143 doctorate degrees were awarded in geology, fifty-three earned by women, only 2.47 percent of the total. **In** meteorology, 245 degrees were awarded of which just two, or 0.82 percent were earned by women. Their figures for the field of anthropology show that women earned 202 degrees or 21.44 percent of the total of 942 degrees awarded during this period. Anyone who seriously compares statistics such as these with the percentage of women in the total population will have to admit that there is a substantial problem. **It's** more than a problem, it's almost a disaster for those of us who have sought such education and its benefits. **In** the Department of the Interior, in 1972 there were 973 total employees in the natural resources occupations, of that number 713 are female. **In** the National Park Service there are 1,843 professional positions in these fields; less than 100 are held by women. This speaks to the heart of our professional problems.

Many positive action programs have been developed in response to these problems in the natural resource occupations. Many major associations and professional organizations are starting to address the issues. The American Council of Education in 1972 built its annual meeting around the theme of "women." The Association of American Colleges has its own project on the status and education of women. Attempts have been and are being made to identify and increase the availability of women in areas where there have not been adequate recruitment programs. Many of the major professional groups have created special committees, mandated to specifically address the problems of women in their professions. Briefly, some of the examples are-the Society for Women Engineers in New York City; the Biophysical Society in Brooklyn, New York; the Association of Women in Science, in Chicago; Graduate Women in Science, in Silver Spring, Md.; the Alliance of Women in Architecture, New York City; Women Architects, Landscape Architects and Planners, in Cambridge, Mass.; the American Anthropological Association Committee on the Status of Women in Anthropology, Columbia University; the American Association for the Advancement of Science, Women's Caucus; the American Chemical Society, Women Chemists Committee, Elkhart, Ind.; the American Physical Society's Committee on Women in Physics, Cambridge, Mass.; and

the Association of American Geographers, Committee on Women in Geography at the University of Michigan.

These are only some of the groups who have banded together for the common and urgent cause of promoting women in the natural resources field of employment and in breaking down common barriers of discrimination. We cannot forget the federal government. Within government there is a group which is very much alive and growing-in numbers, power and authority. They are the Federal Women's Program Coordinators who work directly with equal opportunity employment officers-some of whom are also women-and they are responsible for monitoring the development, administration, and evaluation of federal women's career development and their impact in all occupational employment areas. Within the federal government in 1973 there is strong positive action being taken. Barriers to full and equal employment opportunities for all women will be removed because it is the law. The Equal Employment Opportunities Commission is charged with responsibility for positive action in the local and private sectors of employment . . . and they are moving. Perhaps most important, there are forceful people working in this area to implement the law.

Many years ago, there was a song which said "You've got to accentuate the positives, eliminate the negatives, latch on to the affirmatives and don't mess with mister in between." The words of this song, at least a quarter of a century old, still speak to the type of person most needed to make an impact in the too poorly explored areas and programs which relate most directly to the natural resources occupations. Pioneers, if they are to make a difference, if they are to survive, must be self-assured, prepared educationally and determined. There is no time or place in the professional occupations for a backslider or a meek, timid soul; in today's pluralistic society, *that*, and a dime, won't buy you a cup of coffee. Positive people will translate opportunity into success, inaction into action, despair into hope, ideas into reality and mediocrity into excellence. Here are some of today's positive action people:

Ms. Julia Butler Hanson, Congresswoman from the state of Washington. She is Chairlady of the Appropriations Subcommittee for the Department of the Interior. You know that the Department of the Interior is the largest government organization. It is comprised of 15 bureaus, all deeply involved in the natural resources occupations. Ms. Hanson is a pioneer and a great leader in the natural resources area.

Ms. Edith Green, Congresswoman from the state of Oregon. She is currently a member of the House Appropriations Committee and was formerly on the Committee for Merchant Marines and Fisheries. She is a dedicated woman, outspoken about the woman's cause in every occupational field.

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Patricia Schroeder, Congresswoman from the state of Colorado. A dynamic leader with such strong feelings and convictions about women that she was elected to office largely because of her women's rights platform.

Mrs. Elizabeth Hartwell of Alexandria, Virginia, organized efforts to save Mason's Neck as a wildlife refuge-the only one in the country specifically intended to protect the Bald Eagle, symbol of our nation.

Mrs. Elizabeth Wallace is the coordinator of the Junior League of Washington's Women's Volunteer Service Organization and the Audubon Naturalist Society, and environmental study action course for volunteers and professionals jointly sponsored.

Mrs. Eugenia Corina, Birmingham, Alabama, winner of the President's Environmental Merit Awards Program. Mrs. Dorothy Goonight at the Environmental Protection Agency can supply full information on entrants and winners.

Ms. Betty Campbell, coordinator of the Columbia School Student Wildlife Habitat Arboretum in Portland, Oregon. Twenty-eight acres of city weeds turned into a wildlife habitat and study area. It offers a science building, shelter, nests for injured birds, trees and gardens, paths and bridges-none of which were there before.

Women who work in the planning field are: Beverly Moss Spatt, a member of New York City's Planning Commission; Carolyn Scruggs, city planner, Evansville, Ind.; Terry Anne Vigil, regional planner, Boston, Mass.; Ann Taylor, Director of City Planning, Rochester, N.Y.; Rita Kaunitz, Clean Air Commissioner and member of the Advisory Council on Community Affairs, State of Connecticut; Joyce Whitley of Whitley & Whitley, Consultants, Shaker Heights, Ohio; Black Planning Consultants; Dr. kCharlotte M Sitterly, an astrophysicist in the Department of Commerce's National Bureau of Standards. Women heading up private associations are: Joan Lambros, the Chemical Society, Cleveland, Ohio; Dorothy Gray Harrison, President, Association of Women in Architecture, Altadena, California; Winifred D. White, Executive Secretary, Society for Women Engineers, New York, New York; Dr. Mabel Deutrich, Director, Society of American ARchivists, Washington, D. C.; Dr. Rita Guttman, Biophysical Society, Brooklyn College, Brooklyn, New York; Dr. Loretta Leive, Chairperson, National Institutes of Health, Bethesda, Md., heads the American Association of Biological Chemists; Dr. Mary L. Robbins, of the staff of George Washington University's Medical School, heads the Committee on the Status of Women Microbiologists; Professor Shirley Gorenstein, Department of Anthropology, Columbia University, heads the Committee on the Status of Women in Anthropology. The list could go on and on.

In conclusion, let me stress that there is hope on the very near horizon. We can see that there are women pioneering in almost every field at almost every

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level. Let's throw our hats into the ring and not withdraw them until we have achieved equality across the board. We are the positive people who must assure action in the natural resources occupations, and we must be firm in our commitment to improve for our own equality.

I am sure that you have questions, we all do, and it is on these questions that each of us must work daily-even though many of them may not have final answers. If you have questions you would like me to answer, I will entertain them at this time.



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CHAPTER FOUR

PROBLEMS, ACCOMPLISHMENTS, OPPORTUNITIES  
IN NATURAL RESOURCE PROFESSIONS

by  
Jane Westenberger  
Chief, U.S.F.S.  
Environmental Education Branch

So much has been said in recent years about the changing emerging role of women in modern American society, it is difficult to believe that there is anything illuminating to be added now. The movement-if it can truly be called that-has been researched, psychoanalyzed, sworn at, argued over, picketed (both for and against), flocked to, shunned and legislated about. As you well know, dozens of books, special magazines, and symbolic rituals, such as bra-burning, have emerged as parts of the liberation subculture. So-what is left to say, or do, for that matter? Quite a bit, I'm afraid, since liberation and equality have not been achieved. There is still a very long ways to go, and the problems, accomplishments, and opportunities for women in the natural resource professions typify what professional women face these days.

While I believe that the aggressive, militant activities carried out by women's libbers in recent years are a necessary and important phase of the liberation movement, the emotionally charged atmosphere generated by these activities has, all too often, obscured the very important issues involved. Women have been and still are, in very extensive ways, second class citizens. To remind you of examples, women suffer in job selection and pay, business transactions, social circumstances and legal situations. My own Mother, for instance, although born in the United States, lost her citizenship when she married a foreign-born man who had not yet been naturalized. As a woman, she was not important enough to maintain American citizenship in her own right. This specific abuse was corrected some years ago, but it is typical of the many ways in which women have not been considered first class persons.

The emotionally charged atmosphere of militancy has also fostered many misconceptions which become barriers to progress in the every day world. You are quite familiar with the types of misconceptions about women, especially threatened-male voices as responses to the liberation movement. On the other side

of the fence, the rising concern for women's rights has also produced a syndrome that says these persecuted creatures are somehow especially noble, true, virtuous, honest, perceptive, etc., etc., etc., etc. This, of course, is pure nonsense. At our very best, our very worst, and all the stages in between, we are, after all, simply human beings. That, to me, is the central issue. Women must be accepted fully as fellow human beings with the strengths, weaknesses, rights, and obligations of other members of the species. And women are an important resource to our society which can no longer be wasted. Their emancipation is no simple task and cannot be separated entirely from the larger problem of evolving a society which accepts all members appropriately. Aggressive action is needed in this cause, but not all of the gains will be made on public battle fields, nor can they be.

It is appropriate for this Yale School of Forestry lecture series to be concerning itself with women *and* resources-both as women represent a needed resource in our total society, and as women work in resources management or environmentally oriented careers. It seems to me that women and resources, or women and the environment, go together. I believe that women have a special aptitude and concern for working with environmental problems. (No, I'm not prepared to argue about whether this "special" aptitude is biologically or culturally induced or only my own belief, even though this makes me sound a little chauvinistic myself). Further, I believe that environmentalists have a special, significant, and possibly crucial, role to play in twentieth-century society. E. Max Nicholson (1964), of the British Nature Conservancy, believes that modern environmentalists, with their essentially a-disciplinary attitude and their increasing recognition of man's interdependence with the universe, must take the lead in "the problem of human survival and the finding of a clear road for the further unfolding of civilization." Where do women fit into all this? What have been their accomplishments? What are the problems and the opportunities for the future in the resource or environmental management fields?

The accomplishments can be discussed all too quickly. There are very few to report, particularly in the public agencies responsible for management of resources, the main focus of this discussion. For one thing, there are not many women in "professional" positions in these agencies, in spite of the fact that an increasing number of women have prepared themselves in forestry, wildlife management, range management and the many related fields. In the past, the number of professional level women has been even lower, of course.

The following statistics from a Forest Service report of December 1972 are representative of the situation in general. Of 7,869 professional employees in resource management or related positions in the Forest Service at the time of the report, only 550 were women. This includes personnel in Grade 9 and

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above. This is not a very high proportion of women. Even more significant is the fact that while some 5,000 of these employees were classified as foresters, only four of them were women.

When a check is made of grade levels, which are a rough measure of salary level and type of responsibility, the record is even more dismal. Only three women in the Forest Service had attained Grade 14 which has a beginning salary of \$23,000. These three had positions in Personnel, Budget Administration, and Technical Writing. None were in any type of work that was directly related to the land management activities of the Agency. In fact, as far as I could discover from the records available to me, there has never been a woman in a true, policy or decision making position in the Forest Service. There has never been a woman District Ranger, Forest Supervisor, major Division Director, Regional Forester or higher.

Of course, these statistics must not be judged too harshly from the historical standpoint since it is quite true that there were few, if any, women qualified for many of the higher level positions until recently.

Women *have* made some progress in public agencies such as the Forest Service, however. When professional type jobs are opened to them they more than prove their competence, adaptability, compatibility and staying power. This type of accomplishment-gaining acceptance and building confidence in the minds of fellow workers about women professionals-is one of the most important goals to be achieved. The final battles will not be won in legislation or demonstrations, as important as these may be, but in the everyday relationships between individual people. When Jane Smith, Timber Sale Officer on the Dirty River National Forest is accepted and can work with her crew, or Joe Johnson, Range Management Chief in Region 15 accepts Betty West as his assistant without giving special thought to it, we will have achieved an important goal. I am convinced that there is now a climate in the Forest Service and other similar agencies, which will allow women to begin to move into positions of authority and positions that properly utilize their education and experience. Key administrators and many fellow workers are ready.

The newer climate is not all sunshine, though. There are countless problems and hurdles which still must be overcome. Many of the problems fit into what I should probably call the three A's-attitudes, attitudes and attitudes. The difficulties center around the attitude of men towards women, women towards other women, and women towards themselves.

Somewhat surprisingly, the attitudes women display toward each other as they struggle to move towards more equal acceptance in our society constitute one of the major problems. Some quirk in the nature of humans seems to cause the downtrodden to be as unkind to and unsupporting of each other as they are of

the "enemy:" Women should applaud any breakthrough or advance made by a sister, and, yet, this frequently is not the case. Suspicion about the ability and the moral character of a woman who succeeds is sharply voiced by other women.

Do women in the natural resources professions treat each other this way? Alas, some do. The working conditions in these agencies which require travel, conference attendance, and field activities under somewhat primitive conditions offer countless opportunities to perpetuate the inappropriate attitudes women sometimes have about each other. Men are also guilty of this, of course, but it seems somehow more devastating when women deal this way with each other. We must learn to be more adult, more accepting and supportive of each other, if we are to maintain our right to make our contributions to society.

An equally serious problem is the attitude women have about themselves. Very few women actually see themselves as career women. Very few women, certainly of my generation, can accept gracefully the idea of being a career woman their entire life instead of being a "homemaker." There is still a major social stigma attached to the woman who hasn't married. Even young women by the thousands, much to my surprise, still consider work a waiting period until marriage comes along. Several studies have been made in recent years of young women still in college regarding their image of themselves as career people. Time and time again they gave evidence of fear about succeeding in jobs, fear about the public image they produced as career women, fear about their own ability to perform as well as men, and fear that open aspirations to a career would damage all chance of finding a husband. These feelings were often at a subconscious-level, apparently, but they were a major influence on their conscious attitudes and behaviors.

In some ways I find this self image of women more discouraging than any other problem in the liberation movement because of its impact on the way women act on the job. This side effect of attitude is a very serious one. The influence of the cultural definition of a woman's role is still strong indeed. Usually without meaning to, women project a feeling of being there temporarily, of accepting the appropriateness of a second class role, of being naturally less capable than a man in a similar job. They project all of the things society has said they should. Even when these projections are subtle, they cause a corresponding effect in the behavior of fellow workers. It is as if we cannot give all of our attention, our skill, our knowledge, our commitment to the task, because we are waiting for something else to happen. **If** we project this, is it any wonder we are treated accordingly?

Do women in the natural resources professions exhibit these same feelings and behaviors? Again yes. In preparing for this session at Yale I made personal calls to several of the women now working in forestry or related fields in pub-

lie agencies. Only one of the women exhibited a well-balanced view of herself as a woman and a professional, and indicated confidence that she could do well in any position for which she became qualified. **In** fact, one of the young women who helped break the sex barrier in a respected forestry school some years ago has happily settled down to a medium level job which is only indirectly related to her training as a forester. She is not engaged in the activities of resource management at all. Even more devastating to me was the fact that she professed to believe that most jobs in the agency should not be done by women, even though they might have the schooling and experience to perform them. I obviously do not agree with her. I believe that some women can and should eventually become district rangers in the Forest Service, for instance. Notice I said "some". You see, I do not believe that all men are qualified for this important job, either.

Finally, what about the attitudes of men towards women? To me this is still the core of the whole matter because, in spite of great progress collectively as well as individually for women, it is still very much a man's world. Large numbers of men in resource management professions still exhibit all of the characteristics, traits, symptoms and behavior of what has come to be called a "male chauvinist pig". These men *do* believe that women are not smart enough, physically strong enough, not able to do technical things, handle machinery or mathematics or economics, nor devote enough of their attention to the job. These men still believe that if a woman seems feminine she is using sex to get ahead, or if she acts in a more "business-like" way, she is being unbearably competitive and unsuitably masculine.

Within my personal experience, I have found that most of the men in natural resource professions who believe these stereotyped things about women are insecure in almost classical ways. They fear competition. They often believe quite sincerely that a woman's function in the world is to marry, provide children and serve men. They are totally wrapped up in what our culture has said about the role of women. Many of them still believe that this role has been sanctified by holy scriptures of one sort or another. Incidentally, Wilson Sayres, retired from American Forests Institute, believes, from surveys he has done recently for some articles on women in resource professions, that the chauvinistic attitudes displayed by many foresters have been reinforced in many subtle ways during their years in forestry schools.

Let me hasten to add that the situation is not entirely bleak, however, and the prognosis for the future is promising. I am a relative new comer to the Forest Service, but in the six years I have worked for the Agency I have seen definite progress. As a matter of fact, my own experience has been a good one. I feel I have experienced much less discrimination in this Federal agency than

I did at certain locations and in certain levels in the educational community from which I came. The pessimist would say that is because my specialty, environmental education, is one which is acceptable for a woman to pursue. They would also say there was little discrimination because there were no men with aspirations in environmental education to feel competition from me. I do not believe that is totally true.

Are there opportunities for women in the natural resources professions? Most emphatically, yes! I believe they are unlimited! Governmental agencies and private companies now have official personnel policies about women professionals and, even more importantly, have key management people who honestly believe that women can and should be involved in the management of our environment. When asked recently about women in the Forest Service, Chief John McGuire replied that it was not only possible but probable that there would be a woman Chief someday. Considering how few women there are in this and other agencies, it seems unlikely that I will see that during my tenure with the Forest Service. I do predict, however, that there will be a woman in a key decision making position soon.

Natural resource or land management is no longer a question of the application of scientific skills in a discipline such as forestry. The job of managing our environment requires skills in the whole gamut of the social sciences as well. The job requires sensitivity to and perception of human needs as well as technological skill. Women have ability in these areas which must be added to the effort, and the opportunities are unlimited.

Taking advantage of the opportunities requires an acceptance of certain responsibilities, too. If we are to take our place in the natural resources professions, we must accept the job requirements and working conditions. We must accept difficult hours, transfer, family adjustments, competition for positions, geographic isolation when necessary, or whatever an assignment calls for. The implications for marriage and family are particularly critical and may call for change of life style which must be considered with great seriousness. Many men talk about liberation and honestly think they can work with women (or marry) on an equal basis-until they are directly involved. Then their emotions, drilled in from birth, take over. I know a number of Forest Service men who have worked hard to give women opportunities in the agency, but when asked about working under a woman's supervision-that is another matter. Happily, there are an increasing number who are ready to accept us as partners in the natural resources professions.

The problems have been many, the accomplishments have been discouragingly few until very recently, but the opportunities are virtually unlimited. The main hurdles still remain in the realm of human attitudes. This discussion today has

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deliberately not been a scientific "paper" with copious footnotes because of that. It is almost impossible to footnote the daily reality of human interaction. Psychiatrists, psychologists, medical doctors, educators, and other scientists can tell us much about why people do what they do in general, but they cannot direct my behavior on Tuesday next week as I go about my job. I, all women who aspire to make contributions in special ways to society, must become more skillful at my profession, and most of all in the way I work with the people around me.

The wise management of our environment is the key issue of our day. Women can, should, *must* make their contributions to the effort. Are we willing to accept the challenge in full?

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