

Environmental Crisis and Governmentality:  
Technical and Cultural Rationality During the Prairie States Forestry Project  
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## **Abstract**

The US government's response to the Dust Bowl of the 1930s is testament to the various ways in which a democratic government can address ecological disaster. An often-overlooked project of Roosevelt's New Deal was the Prairie States Forestry Project (PSFP), which successfully planted 220 million trees from northern Texas to North Dakota in order to reduce wind velocity and mitigate soil erosion. A cooperation between the government and the Great Plains' farmers who planted the trees on their farms, the PSFP is an ideal case-study to examine how democratic government can encourage positive environmental action without authoritative means. To understand this cooperation, this thesis utilizes the source of USDA Farmers' Bulletins, which present rhetoric and discourse of this relationship that is otherwise inaccessible. By approaching the Farmers' Bulletins through the lens of Foucauldian governmentality, and understanding mentalities of government through their technical or cultural rationalities, this thesis sets out to answer the research question of how cultural and technical rationality impacted the success of the PSFP. The thesis concludes that rationality encouraged the successful approach that the PSFP took, while simultaneously limiting the extent to which the destructive elements of American agriculture could be fundamentally changed. Of particular importance was cultural rationality, derived from social and cultural values specific to the Great Plains and American agriculture and exhibited through modes such as narrativity, which supported the PSFP as a financial endeavor and positioned conservation as a solution to a loss in productivity.

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## Introduction

One of the most notable moments in United States history of environmental destruction, as well as environmental action, is the Dust Bowl of the 1930s. Intensive agricultural practices that tore up grasslands in the Great Plains, combined with long periods of drought, led to enormous dust storms and severe soil erosion caused by prairie winds (figure 1). The so-called natural disaster led to the migration of approximately 3.5 million inhabitants of the Great Plains

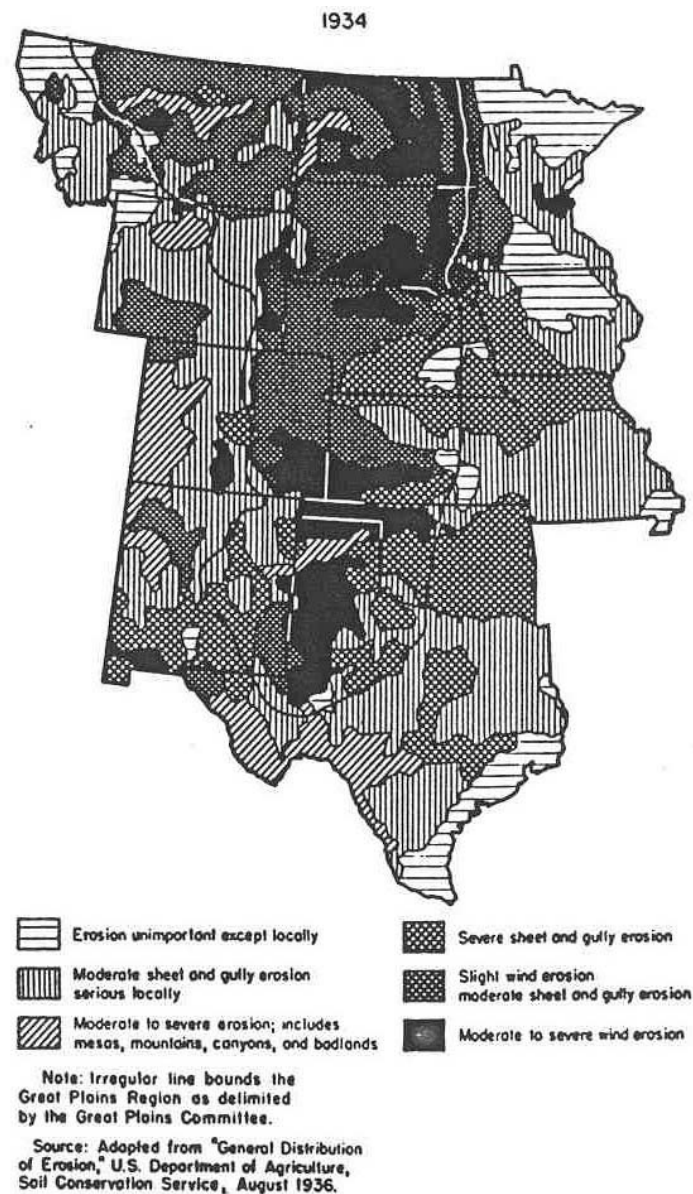


Figure 1. *Wind erosion in the Great Plains in the 1930s*, in Zeynep K. Hansen and Gary D. Libecap, "Small Farms, Externalities, and the Dust Bowl of the 1930s," *Journal of Political Economy* 112, no. 3 (June 2004): 669.

from 1930 until 1940, as well as having an immediate and enduring impact on agriculture.<sup>1</sup> In addition to this disaster, and in the context of the New Deal, the Dust Bowl era also saw the creation of many initiatives aiming to ease both environmental and societal devastation. Particularly impressive, but also particularly overlooked is the Prairie States Forestry Project (PSFP) from 1934 until 1942 (figure 2). The project, originally called the Great Plains Shelterbelt, aimed to expand and organize the use of a common method of securing soil and

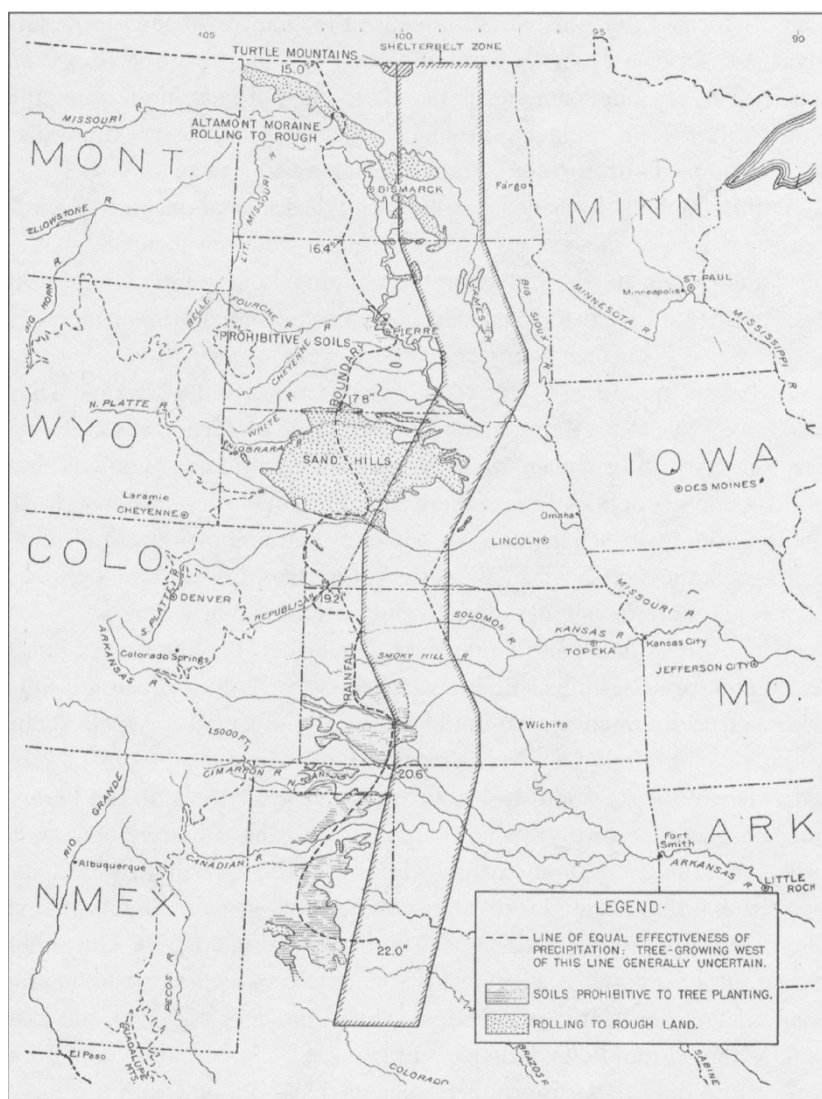


Figure 2. US Forest Service, *Possibilities of Shelterbelt Planting in the Plains Region*, 1935, in Joel Orth, "The Shelterbelt Project: Cooperative Conservation in 1930s America," *Agricultural History* 81, no. 3 (July 1, 2007): 335.

<sup>1</sup> Donald Worster, *Dust Bowl: The Southern Plains in the 1930s* (New York: Oxford University Press, 1979), 49.; Richard Hornbeck, "The Enduring Impact of the American Dust Bowl: Short- and Long-Run Adjustments to Environmental Catastrophe," *American Economic Review* 102, no. 4 (June 2012): 1477–1507.

protecting farms from wind through planting rows of trees, which were known as shelterbelts or windbreaks. A shelterbelt provides shelter from the wind by reducing wind velocity thereby helping to protect the farm from soil erosion (figure 3). 220 million trees were planted from Northern Texas to North Dakota in the course of a decade, representing, according to Thomas Sauer of the United States Department of Agriculture's (USDA) Agricultural Research Service, "the largest and most-focused effort of the [US] government to address an environmental problem."<sup>2</sup>

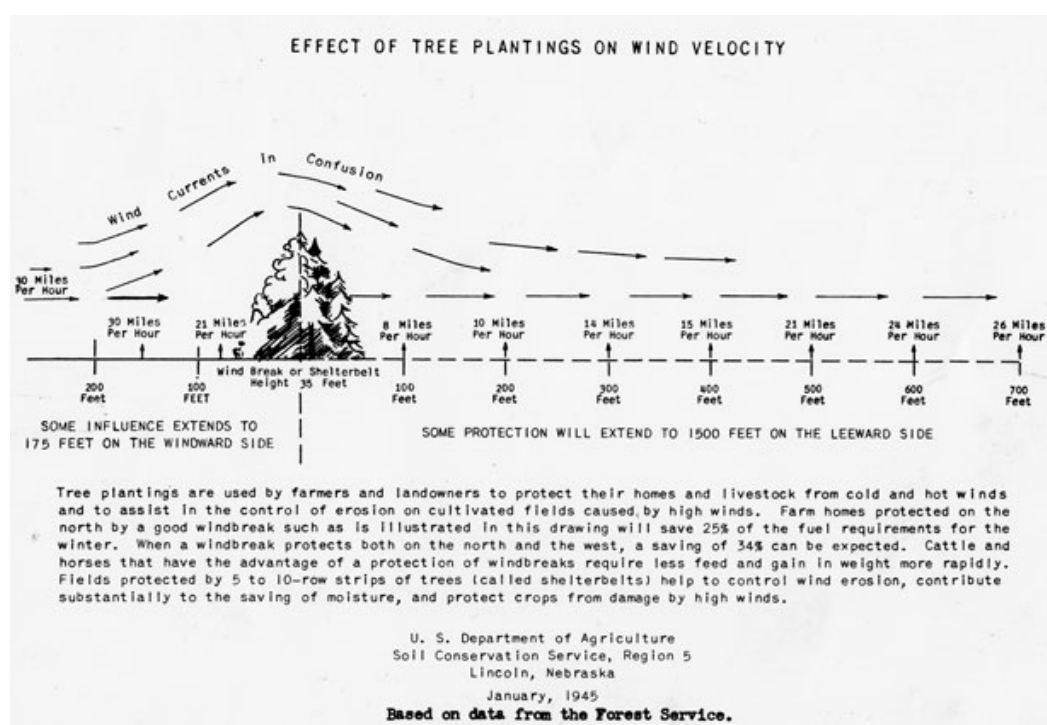


Figure 3. USDA, *Effect of Tree Planting on Wind Velocity*, 1945, Public Radio International, accessed March 27, 2020, <https://www.pri.org/stories/2018-02-03/trees-helped-save-americas-farms-during-dust-bowl-are-now-under-threat>

Undoubtedly, this significant achievement relied upon the direction of the project, predominantly by the United States Forest Service, and governmental workers from programs such as the Civilian Conservation Corps. However, this is not the end of the story.

<sup>2</sup> "The Dust Bowl's Prairie States Forestry Project: Model for an Effective Global Climate Change Strategy?" ASA-CSSA-SSSA Conference, accessed March 27, 2020, <https://a-c-s.confex.com/crops/2007am/techprogram/P33604.HTM>.

Governmental farm foresters worked hand in hand with local farmers and other landowners throughout the course of the project. Sometimes, farmers were the ones to plant the shelterbelts, but more often planting a shelterbelt was simply dependent on the willingness of landowners.<sup>3</sup> One of the tasks of the land examiner of the project was to “convince the farmer that the requirement [for a shelterbelt was] for his own good,” and not to have to say “it must be so because the State Office or Regional Office requires it.”<sup>4</sup> This task was, as the project director Raphael puts it, “one of the most important phases of the shelterbelt establishment.”<sup>5</sup> Many times, as Joel Orth demonstrates, compromises were made between governmental agents and farmers concerning tree spacing, the width of shelterbelt and the types of tree, often at the expense of more effective conservation measures.<sup>6</sup> In this sense, convincing landowners that the shelterbelt program was in their interest was crucial to the project’s success. Therefore, while federal subsidies and free labor were a primary component towards understanding the success of the PSFP, the cooperation and relationship with farmers was certainly critical as well. This relationship warrants further examination.

An important part of the relationship between the government and Dust Bowl farmers was the USDA’s Farmers’ Bulletins. These bulletins were not the only means that the government tried to convince farmers of the importance of shelterbelts. The previously mentioned land examiner, as well as other forms of verbal communication between the USDA and Great Plains’ farmers were certainly a large part of the process. However, due to the physical quality of the Farmers’ Bulletins, they can provide insight into aspects of this relationship that are otherwise inaccessible. Farmers’ Bulletins were published irregularly

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<sup>3</sup> Harold T. Pinkett, “The Soil Conservation Service and Farm Woodland Management, 1938-1945,” *Agricultural History* 59, no. 2 (1985): 280–89.

<sup>4</sup> Wilmon H. Droze, *Trees, Prairies, and People: A History of Tree Planting in the Plains States* (Texas Woman’s University, 1977), 169.

<sup>5</sup> Droze, 166.

<sup>6</sup> Joel Orth, “The Shelterbelt Project: Cooperative Conservation in 1930s America,” *Agricultural History* 81, no. 3 (July 2007): 333–57.

throughout most of the twentieth century, with the first issue published in 1889. Their purpose was primarily to expose the nation's farmers to newly discovered scientific agricultural research, covering any topic relevant to farmers. It is difficult to determine exactly how many farmers read the bulletins. However, a 1931 study revealed that "two-thirds of the families received and read federal or state bulletins giving advice on better farming and homemaking."<sup>7</sup> Additionally, in the *Guide to U.S. Government Publications*, it is claimed that "of all the publications of the Department of Agriculture, or for that matter the whole U.S. Government, the Farmers' Bulletins are the most well known."<sup>8</sup> Given that there were 1.7 million farms on the Great Plains in 1935, it is fair to assume that approximately a million farms were exposed to these bulletins. This indicates that Farmers' Bulletins were by no means obscure or irrelevant. In fact, it seems that they were deceptively commonplace.

Farmers' Bulletins were written in a "concise, non-technical, and popular style."<sup>9</sup> The bulletins were made for enjoyable reading, making the content more digestible for farmers. According to the *Guide to U.S. Government Publications*, the bulletins were "designed to meet the needs of the individual farmer or rancher, [giving] the particular application of agricultural information, stressing directions and recommendations."<sup>10</sup> In other words, using the Farmers' Bulletins as a source helps reveal how the USDA wanted to change farmers and farming practices. A particularly telling sign of this is the fact that certain bulletins would be revised, sometimes even several times, as new research and new standards of farming practices emerged. The selection of Farmers' Bulletins used in this analysis all concern the planting of trees on the farm from approximately 1934 until 1942, when the PSFP was carried out. This

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<sup>7</sup> Elizabeth Ellis Hoyt and Ethyl Cessna Morgan, "Value of Family Living on Iowa Farms," *Iowa Agricultural Experiment Station Bulletin* 281 (Ames: Iowa State College of Agriculture and Mechanic Arts, 1931), quoted in Nancy Duran, "Farmers' Bulletins Advice to Women on Diet, Food, and Cooking," *Journal of Agricultural & Food Information* 6, no. 1 (March 2004): 49–75.

<sup>8</sup> Donna Andriot, ed., *Guide to U. S. Government Publications* (Manassas: Documents Index, 1999), 1.

<sup>9</sup> Andriot, 1.

<sup>10</sup> Andriot, 1.



includes bulletins specific to the Great Plains and the Dust Bowl, as well as general bulletins about forest farms. As mentioned, several bulletins that have been chosen have been revised over the course of the Dust Bowl. This will partly allow for analysis of changes in content and phrasing between different time periods, but more importantly, determine the bulletins that were considered most important as to require a revision. For instance, the bulletin *The Windbreak as a Farm Asset*, was first published in 1917, but had revisions published in 1936 and 1940. Similarly, several other bulletins have multiple revisions that indicate their relevance in their need for alteration. The purpose of this selection is not to be a comprehensive representation of the USDA's relationship to American farmers, but to offer a first look at this relationship.

### Mentalities of Government and Narrativity

To begin to understand the lens in which to analyze the Farmers' Bulletins and the relationship between farmers and the USDA, it is first important to understand the characteristics of the PSFP. Useful to understanding the PSFP as an agricultural project is a comparison to other agricultural reforms during the same period. In his work *Seeing like a State*, James Scott discusses numerous projects and reforms in the twentieth century, many of agricultural societies.<sup>11</sup> While during the PSFP there is still a sense of a certain exercise in what James Scott refers to as high modernism ideology, aiming at administratively ordering nature and society, there are important differences between the USDA's project and the collectivization in Russia, or the Great Leap Forward in China. Immediately it is clear that the PSFP was not centrally managed like the explicitly authoritative agricultural reforms during the same period. The result of this is that there is a fundamental difference in how power was

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<sup>11</sup> James C. Scott, *Seeing Like a State: How Certain Schemes to Improve the Human Condition Have Failed* (New Haven: Yale University Press, 1999).

exercised. In the case of the USDA, there was not, as Scott put it, a willingness “to use the full weight of its coercive power to bring these high-modernist designs into being.”<sup>12</sup> Nor was there the second precarious element of a “prostrate civil society that lacks the capacity to resist these plans.”<sup>13</sup> The task of the land-examiner is evidence of this; not to resort to simply ordering the farmer to obey, but instead aiming to convince them. In this sense, there was an “existence and belief in a private sphere of activity in which the state and its agencies may not legitimately interfere” which Scott saw as a potential hindrance to high modernism.<sup>14</sup> Nevertheless, this “zone of autonomy has had a beleaguered existence,” through both the subtle and overt ways in which the private sphere has been compromised, which scholars such as Foucault have aimed to understand.<sup>15</sup> This essay will therefore employ Foucault’s concept of governmentality, which emphasizes the governance of people’s conduct and deemphasizes the top-down functioning of power found in authoritarian states. Particularly in the US, where self-determination is constitutional, the concept offers insight into how the government shaped and guided the conduct of farmers.

Governmentality begins with an understanding of mentalities of government, which are the ways in which governance “draw[s] upon the expertise, vocabulary, theories, ideas, philosophies and other forms of knowledge that are given and available to us,” both rational and a-rational.<sup>16</sup> Rational mentalities of government privilege systematic thinking over a-rational forms such as “symbolic, mythic or poetic modes.”<sup>17</sup> That there are dual modes of “reasoning, or (...) thinking about, calculating and responding to a problem,” has also been understood by scholars such as Frank Fischer, who distinguishes between technical and cultural

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<sup>12</sup> Scott, 5.

<sup>13</sup> Scott, 5.

<sup>14</sup> Scott, 101.

<sup>15</sup> Scott, 101.

<sup>16</sup> Mitchell Dean, *Governmentality: Power and Rule in Modern Society*, 2nd ed. (SAGE Publications, 2010), 25.

<sup>17</sup> Dean, 24.

rationality in the context of environmental governance.<sup>18</sup> Technical rationality, “a mind-set that puts its faith in empirical evidence and the scientific method,” corresponds with the aforementioned rational mentality of government, while cultural rationality, which “gives equal weight to—personal and familiar experiences rather than depersonalized technical calculations,” may be considered an a-rational mentality of government.<sup>19</sup> For the purposes of consistency, this thesis will discuss these rationalities with Frank Fischer’s terms. According to the theory of governmentality, these mentalities of government guide government practice, as well as social, cultural and political practices to produce what we call truth. The second aspect of governmentality is the internalization of this truth by individuals and the way in which this guides the behavior of populations. What is of interest to this analysis of Farmers’ Bulletins are the rationalities present during the PSFP, both technical and cultural, and how the Farmers’ Bulletins position themselves in relation to these mentalities.

Narrative will be understood as a central aspect influencing rationality. “The stories we tell change the way we act in the world,” because “we use them to motivate and explain our actions.”<sup>20</sup> Narratives about the Dust Bowl, but also about the environment in general, will suggest certain kinds of relationships between the farmer and the environment, justified through a historical precedent. William Cronon distinguishes two dominant narratives of the region, one being labelled as progressive, and the other as declensionist. Cronon sees the progressive narrative as one in which the Great Plains was turned from raw materials into a finished product. The endless fields of grass became farms, ranches and gardens. In this narrative, the Great Plains began as an uninhabited wasteland that deserves to be transformed into something better. While it is tragic, the Dust Bowl is still merely a setback created from a resistant and hostile

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<sup>18</sup> Dean, 24.

<sup>19</sup> Frank Fischer, *Citizens, Experts, and the Environment: The Politics of Local Knowledge* (London: Duke University Press, 2000), 132.

<sup>20</sup> William Cronon, “A Place for Stories: Nature, History, and Narrative,” *The Journal of American History* 78, no. 4 (1992): 1375.

nature. The declensionist narrative however sees the Great Plains as originally delicate and beautiful, but ends where progressive narrative begins: as a wasteland. In the declensionist narrative, the Dust Bowl is the “most vivid possible symbol of human alienation from nature.”<sup>21</sup> An important component of Cronon’s analysis is the connection between these two historical narratives and political ambition. For instance, Paul Bonnifield’s history of the Dust Bowl, which fits within the progressive narrative, “is a tale of ordinary folk needing nothing so much as to get government off their back.”<sup>22</sup> A hostile nature is not a necessary prerequisite for governmental intervention; farmers could thrive on the Great Plains if they learned how to, without the help of the government. On the other hand, declensionist historians such as Donald Worster sees the story of the Great Plains as a “paradigmatic case in a larger story that might be called ‘the rise and fall of capitalism.’”<sup>23</sup> Worster sees capitalism’s fundamental ethos and economy as the inability to recognize natural limits. In this instance, the story of the Dust Bowl is inherently connected to the necessary increase in governmental intervention. Environmental narratives are an important component to understanding how the PSFP’s rationalities often are derived from “imagery and mythology with a strong emotional resonance,” such as imagery and mythology of America’s past.<sup>24</sup> It is therefore also important to the analysis of governance of the PSFP.

### Green Governmentality

Green governmentality is a specific approach to Foucault’s concept. As Stephanie Rutherford describes, green governmentality allows an analysis of the “ways in which the environment is constructed as in crisis, how knowledge about it is formed, and who then is

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<sup>21</sup> Cronon, 1364.

<sup>22</sup> Cronon, 1363.

<sup>23</sup> Cronon, 1363.

<sup>24</sup> Dean, *Governmentality*, 25.

authorized to save it.”<sup>25</sup> Stephanie Rutherford offers three different analytical components of green governmentality that will be used as structural guidance for this analysis of Farmers’ Bulletins. The first is the concept disciplinary power. Disciplinary power complicates the traditional understanding of power as top-down, by focusing the functioning of power on individuals. Unlike authoritarian power’s emphasis on the individual as “an object of violence or [honor],” disciplinary power “[endeavors] to meticulously, exhaustively and continuously control the activities of bodies,” through notions of normality and correct behavior.<sup>26</sup> Chapter one will be the springboard into understanding the PSFP’s power relations, by questioning the role of disciplinary power in the project, as well as how this relates to environmental rationality. This will be done through discerning which institutions of disciplinary power are immediately visible in the bulletins, as well as the way in which these institutions are presented. The second concept is that of biopower, which concerns itself with the management of life, and the construction of normality and abnormality. While Foucault only discussed the management of human lives, green governmentality theorists extend that conceptualization to include all forms of life. In other words, chapter two questions what kind of knowledge was created about the environment in the Farmers’ Bulletins and how this knowledge created normal and abnormal environments and ways of interacting with the environment. This will be done through an analysis of the ways in which shelterbelts are presented, by looking for specific phrasing, words, and concepts related to environmental discourse. Lastly, the concept of subject formation understands individuals as vehicles of power, and allows the analysis of how individuals could relate to the Farmers’ Bulletins and the PSFP in chapter three. This last chapter will therefore try to understand how the bulletins related to the subjectivity of individuals relevant to the

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<sup>25</sup> Stephanie Rutherford, “Green Governmentality: Insights and Opportunities in the Study of Nature’s Rule,” *Progress in Human Geography* 31, no. 3 (June 2007): 291–307.

<sup>26</sup> Marcelo Hoffman, “Disciplinary Power,” in *Michel Foucault: Key Concepts*, ed. Dianna Taylor (Durham: Routledge, 2011), 28.

PSFP, by looking for the ways in which the bulletins describe and position farmers and PSFP foresters.

Averting short-sighted practices and encouraging prudence is a central concern in addressing climate change. Particularly in regards to agriculture, it is paramount not to sacrifice longevity. The goal should never be to produce an overabundance of food for the short-term. Large amounts of food do need to be produced, but certainly not in excess, which wastes both food and resources, and not at the expense of future food production, which will result in either starvation or malnutrition. Nonetheless, it is impossible to ignore the quotidian experience of farmers. More farmland allows for more crops, and crops are the means towards financial stability. Even today, it is less profitable to have more trees on your property. When commodity prices rise, more cropland allows a profit that will get you through the bad years. However, in bad years, when commodity prices are low, the farmer often needs more money to get by, and will rip out trees to plant more crops.<sup>27</sup> This seemingly perpetual situation begs the question as to how effective and sustainable agriculture is possible. Environmental technical and cultural rationality highlights how environmental issues and our responses can be framed in several different ways. Not only that, but that this framing matters to how our environment is governed. Surely then, the solution to effective environmental policy is in part connected to our rationalities towards the environment. Hopefully, a look at the PSFP will elaborate a possible solution, considering the sheer number of trees planted, and the alleviation it brought to the Dust Bowl. This thesis will therefore investigate how the success of the PSFP was influenced by technical and cultural rationalities towards the environment.

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<sup>27</sup> Adam Wernick, "Trees That Helped Save America's Farms during the Dust Bowl Are Now under Threat," Public Radio International, accessed March 27, 2020, <https://www.pri.org/stories/2018-02-03/trees-helped-save-americas-farms-during-dust-bowl-are-now-under-threat>.

## Chapter 1: Disciplinary Power

As Foucault explains, modern society is characterized by, among other things, a dispersion of power throughout society rather than being located solely at a single, centralized institution. This understanding of power opposes a juridico-discursive theory of power, which supposes that power comes from the ability to prohibit conduct through the formulation of laws. This is not to say that a centralized power of law and domination cannot “be present in certain contexts as terminal forms,” merely that none of those forms of power are fundamental.<sup>28</sup> This can also be understood in relation to Stephen Lukes’ three-dimensions of power. The first dimension of power, the power to make decisions, is highly related to the juridico-discursive theory of power. The second dimension, the power to set the decision-making agenda is also a dimension of the juridico-discursive theory of power, because it ultimately understands power as domination through law. However, Lukes’ third dimension of power elaborates on how domination can occur not only through law, but also through ideology, thereby “securing the consent to domination of willing subjects.”<sup>29</sup> Foucault’s understanding of power has been referred to as the fourth dimension of power. While the first three dimensions understand that “A exercises power over B when A affects B in a manner contrary to B’s interests,”<sup>30</sup> Foucault suggests that we cannot take for granted the subjects of A and B. The fourth dimension of power postulates that the subjects themselves are socially constructed through power, “whose formation can be historically described.”<sup>31</sup> A Foucauldian analysis of power therefore tries to work beyond the first three dimensions of power by asking the kind of subject being produced, and by what.

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<sup>28</sup> Hoffman, “Disciplinary Power,” 16.

<sup>29</sup> Steven Lukes, *Power: A Radical View*, 2nd ed. (New York: Palgrave Macmillan, 2004), 109.

<sup>30</sup> Lukes, 30.

<sup>31</sup> Peter Digeser, “The Fourth Face of Power,” *The Journal of Politics* 54, no. 4 (November 1992): 980.

A principal form of this modern power is disciplinary power. In contrast to premodern sovereign power, disciplinary power is not possessed, but rather is exercised; it exists in the normative “discursive systems and practices that make up the institutional complex.”<sup>32</sup> One such institution is the academic discipline. The academic discipline emerged in the eighteenth and nineteenth centuries and each discipline aimed to rationally organize and understand the world in their own way. In Foucauldian theory, a key component of power is its intrinsic connection with knowledge. The intimate relationship between power and knowledge is described by Foucault with the term power-knowledge. The two concepts are never separate; knowledge always informs the exercise of power and the exercise of power always creates knowledge. In other words, a discipline’s pursuit for knowledge is also a pursuit for control and organization, and this pursuit is guided by the use of particular discourses and practices. Importantly, disciplinary power is individualizing. As Foucault explains, “the chief function of the disciplinary power is to ‘train’, rather than to select and to levy.”<sup>33</sup> Disciplines discipline the individual, and the “point of application is always the body.”<sup>34</sup> This means that the ultimate aim of disciplines is the control of the body, primarily through three techniques of power: hierarchical observation, normalizing judgement and the examination. All three techniques of power inevitably work to establish a norm, and punish those that deviate from it.

While Foucault predominantly analyzed disciplines that studied humans, such as psychiatry or institutional disciplines such as the prison system, the analysis of disciplinary power can also be extended to disciplines concerned with the natural world. As Stephanie Rutherford explains, “the government of population must include the very environment from which humanity subsists.”<sup>35</sup> If it is the case that disciplinary power works to train individual

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<sup>32</sup> Fischer, *Citizens, Experts, and the Environment*, 26.

<sup>33</sup> Michel Foucault, *Discipline and Punish: The Birth of the Prison*, 2nd ed. (New York: Vintage Books, 1995), 170.

<sup>34</sup> Hoffman, “Disciplinary Power,” 28.

<sup>35</sup> Rutherford, “Green governmentality,” 294.



subjects and change behavior in a way that authoritarian power cannot, it seems important to identify and understand disciplinary power within the PSFP. As Rutherford explains, “examining power in this way opens up the field of possibility to talk about particular kinds of environmentalism, for example, as a site for the exercise of certain kinds of power.”<sup>36</sup> Therefore, this chapter will inform an understanding of how disciplinary power influenced the PSFP.

### Disciplinary Power in the PSFP

Although limited, the analysis of power during the PSFP should begin with the juridico-discursive theory, which would place power at the hands of the United States federal government to formulate laws of the project. The PSFP was initially launched by Franklin D. Roosevelt in 1934, and can be understood as one out of many components of the New Deal. The United States Forest Service, an agency of the USDA, took command of the project, and the USDA was also the producer and distributor of the Farmers’ Bulletins. These governmental departments used their power to adjust subsidies, provide aid, and enforce legislation throughout the course of the PSFP. However, Foucault’s theory of power reminds us that it is more important to consider the exercise of power, particularly disciplinary power, rather than the possession of power. Which disciplines conducted the PSFP and what forms of power did they exercise? Relevant to this analysis is understanding the disciplines that created knowledge about the PSFP, but more importantly, the disciplines that presented themselves to the farmer. This question will therefore be approached through the Farmers’ Bulletins, which offer a glimpse into which disciplines that exposed themselves to the rural populations of the Great Plains during the execution of the project.

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<sup>36</sup> Rutherford, 296.

The relevant scientific disciplines are in fact remarkably easy to locate. Each bulletin includes the name of the author, as well as their position within their discipline. As an example, in *Planting and care of Shelterbelts on the Northern Great Plains* (ed. 1937), after the title and before the contents it states the author: “By Robert Wilson, associate arboriculturist, Division of Dry Land Agriculture, Bureau of Plant Industry. Revised by Ernest J. George, associate silviculturist.”<sup>37</sup> Other authors from bulletins concerning shelterbelts on the Great Plains have titles such as “principal silviculturist” and “senior agriculturist.”<sup>38</sup> Additionally, many bulletins recommend consulting other specialists to retrieve more information. These recommendations include a “forestry department,” or an “agricultural college,” as well as the “state horticulturist,” “state plant pathologist,” or “state extension forester.”<sup>39</sup> Forestry, silviculture, arboriculture, horticulture and plant pathology are all individual scientific disciplines that operated within the PSFP. More than that, the scientists and disciplines of the US Forest Service were a crucial step in the creation of the project in the first place. Early proponents of the project from the Forest Service also became leading directors. For instance, experienced forester Raphael Zon became the leading Research Director and silviculturist Carlos Bates became the head of technical research.<sup>40</sup> And, as we have seen, it is also primarily forestry researchers that wrote the Farmers’ Bulletins on farm shelterbelts and windbreaks. For instance, Carlos Bates wrote the entire series entitled *The Windbreak as a Farm Asset*. The discipline of forestry, as well as its subdisciplines, can therefore be seen to be an important factor in the production of knowledge about the PSFP.

The various subdisciplines of forestry mentioned also makes it particularly clear that the specialization of its authors is important. Distinguishing between these particular

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<sup>37</sup> Robert Wilson, “Planting and Care of Shelterbelts on the Northern Great Plains,” Farmers’ Bulletin 1603 (Washington: United States Department of Agriculture, 1937), 1.

<sup>38</sup> Carlos G. Bates, “The Windbreak as a Farm Asset,” Farmers’ Bulletin 1405 (Washington: United States Department of Agriculture, 1936), 1; E. F. Chilcott, “Preventing Soil Blowing on the Southern Great Plains,” Farmers’ Bulletin 1771 (Washington: United States Department of Agriculture, 1937), 1.

<sup>39</sup> Forest Service, “Arbor Day: Its Purpose and Observance,” Farmers’ Bulletin 1492 (Washington: United States Department of Agriculture, 1936), 11; Forest Service (1936), 11; Forest Service (1936), 14; Wilson, “Planting and Care of Shelterbelts,” (1937), 20; Bates, “The Windbreak as a Farm Asset,” (1936), abstract.

<sup>40</sup> Droze, *Trees, Prairies, and People*, 111, 137.

specializations of the study of trees emphasizes their differences. This emphasis of specialists is more than highlighting their intelligence however; it is a statement of their expertise within a discipline. As Samuel Hays explains, “professional standing [depends] on the ability to describe a particular piece of reality in such a way as to convince others that one [is] right.”<sup>41</sup> The particular piece of reality that forestry constructs can be historically described. While it may seem a natural study, the history of the modern discipline of forestry, particularly in the United States, indicates that it was born in tandem with the conservation movement in the early twentieth century. Additionally, the US Forest Service takes a particular stance within the conservation movement, specifically in leaning towards the value of conservation over preservation. Conservationists, as opposed to preservationists, were “not interested so much in preserving nature untouched as in standing guard to make sure it was used in the wisest, most efficient way possible.”<sup>42</sup> This internal disagreement was displayed most notably in a debate from 1908 until 1913, where the first chief of the Forest Service, Gifford Pinchot, argued that the Hetch Hetchy Valley should be dammed to provide a steady water supply to San Francisco. Pinchot argued against preservationist John Muir, who wanted to preserve the valley for its beauty and natural value. Thus, the Forest Service itself, and therefore the discipline of forestry can be understood as having incorporated the idea of conservation as opposed to preservation; that while forests should be protected and healthy, this is ultimately for the sake of being profitable and in service of society.

The disciplinary power of forestry then is characterized by specialization of conservation practices. Forestry trains the individual forester, through an academic context of hierarchical observation from experts and specialists, as well as examinations and judgement,

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<sup>41</sup> Samuel P. Hays, *Beauty, Health, and Permanence: Environmental Politics in the United States, 1955–1985* (Cambridge: Cambridge University Press, 1987), 343.

<sup>42</sup> Ted Steinberg, “Conservation Reconsidered,” in *Down to Earth: Nature’s Role in American History* (Cary, US: Oxford University Press, 2000), 138.

to pursue technical expertise of conservation. Therefore, the suggestion is that the disciplinary power exercised within forestry promotes technical rationality, which values and supports expert judgements. Technical rationality does not only value scientific expertise, but importantly, it also “relies on expert judgments in making policy decisions.”<sup>43</sup> What role did this technical rationality play in the PSFP? To answer this question, it is important to distinguish between specialization and policy like Frank Fischer does. As Fischer explains, policy often has a problematic relationship with specialization, particularly in the case of environmental policy, due to uncertainty created by the differing realities and perceptions of environmental sciences. For environmental specialists, this frequently results in “conflict with decision makers in search of answers.”<sup>44</sup> In the case of the PSFP, while the forestry discipline created expert knowledge about the environment, it was the US Forest Service that created the policy of the PSFP. The policy makers can therefore be understood as also being the environmental specialists, resulting in little conflict between the two. In other words, because the ones that created the solution to soil degradation were also the ones to implement it, large objections based on differences in discipline’s expertise are curtailed.

That is not to say that the project was not contested at all. The largest contestation came from other foresters who pointed to unsubstantiated claims made in the original press release that the PSFP would bring about large-scale improvement to the macro-climate of the Great Plains.<sup>45</sup> This, they believed, could discredit the reputation of forestry as a truly scientific profession and also the “recognition of foresters as scientists by professional people in other scientific fields.”<sup>46</sup> Even the scathing critic of the plan H.H. Chapman, president of the Society of American Foresters, admitted that planting trees could benefit the localities in which they were planted, if the “the entire operation is guided from first to last by the highest technical

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<sup>43</sup> Fischer, *Citizens, Experts, and the Environment*, 132.

<sup>44</sup> Fischer, 96.

<sup>45</sup> Droze, *Trees, Prairies, and People*, 86.

<sup>46</sup> Droze, 86.

skill in selecting site, species, seed sources, [and] planting methods.”<sup>47</sup> The contestation ultimately concerned whether the project would impact forestry as a discipline, not whether planting trees in the Great Plains would be positive or negative. This example elucidates how while some believed the PSFP was not technically rational, the value for technical rationality itself was never doubted.

### Limitations of Disciplinary Power

Thus, the US Forest Service, as well as its governing body of the USDA, have been shown to be influenced by the disciplinary power of the scientific discipline of forestry. The extent to which this impacts policy is clear, however, not yet determined is how this impacted the outcome of the project. The crucial factor to this question is therefore farmers themselves. Due to the lack of authoritative power of punishment, there is little opportunity for the USDA to exercise disciplinary power over the farmers. Nonetheless, an ambition for changing farmer’s behavior can be seen through the production of sources such as the Farmers’ Bulletins. This ambition becomes clear when considering the techniques of power referred to previously: the hierarchical observation, normalizing judgement and the examination. A hierarchical “gaze from the top to the bottom” can be seen in the relationship between the specialist and farmer,<sup>48</sup> particularly in the observation and supervision involved in the land examiner’s work. Of course, the land examiner’s work also simply involves an examination of the land, concluding with the classification of the land as good or bad, or as in need of a shelterbelt or not. Most relevant for this analysis however, is the Farmers’ Bulletin’s role in normalizing judgement. By prescribing forestry’s scientific knowledge about shelterbelts in the Farmers’ Bulletins, and inherently also its discursive systems and practices, the bulletins aided in depicting both normal as well as

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<sup>47</sup> Robert Gardner, “Trees as Technology: Planting Shelterbelts on the Great Plains,” *History and Technology* 25, no. 4 (December 2009): 334.

<sup>48</sup> Hoffman, “Disciplinary Power,” 31.

abnormal farms and farmers. In this sense, the USDA can be seen to seek to change individual practices of farmers, but lacked the ability to immediately and directly exercise this disciplinary power on the farmer through punishment.

This crucial lack of ability to apply punishment to the farmer, which is present in the scientific and academic discipline of forestry, means that disciplinary power is not enough to explain the functioning of the PSFP. The farmer is not entirely disciplinable, and the USDA not entirely capable of exercising disciplinary power over farmers. This analysis is therefore also entirely consistent with Scott's understanding of the conflict between "liberal democratic ideas and institutions" and "high-modernist planning."<sup>49</sup> The belief in a zone of autonomy inhibits the ability to impose policy on agricultural society, and limits the USDA's possibilities of exercising disciplinary power during the PSFP. How then, is it possible to understand power in the PSFP? This will be further examined in chapter two, which delves into the biopower of the PSFP and the normative function of the Farmers' Bulletins.

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<sup>49</sup> Scott, *Seeing Like a State*, 101.

## Chapter 2: Biopower

The previous chapter's analysis of power and knowledge has revealed that the ability to exercise disciplinary power to enact the PSFP was limited, and thus another explanation for the governance of Great Plain's farmers is needed. Biopower is another form of modern power that operates through the techniques of management, organization and description. Foucauldian biopower attempts "to rationalize problems posed to governmental practice by phenomena characteristic of a set of living beings forming a population: health, hygiene, birthrate, life expectancy, race."<sup>50</sup> Essentially, biopower governs through the notions of normal and abnormal.

While Foucault focused his analysis of biopower on the management of human lives, the importance of also analyzing biopower in terms of the natural world has been argued and demonstrated by multiple green governmentality scholars. For instance, David Demeritt demonstrates the impact that assessment and management had on the US national forest.<sup>51</sup> Through the "biopolitical practices of assessment, such as the generation of statistical data and graphic representations," the US national forest became an "intelligible and calculable entity" that created the reason for the institution of scientific conservation.<sup>52</sup> In other words, the way in which the nature of the US was measured and managed generated the context for which there could be concern for such a thing as the national forest. In a similar vein, Murdoch and Ward show how the idea of the British national farm came into being, only due to the way in which agriculture was represented in statistics.<sup>53</sup> The collection of survey statistics about farms and

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<sup>50</sup> Dean, *Governmentality*, 118.

<sup>51</sup> David Demeritt, "Scientific Forest Conservation and the Statistical Picturing of Nature's Limits in the Progressive-Era United States," *Environment and Planning D: Society and Space* 19, no. 4 (August 2001): 431–59.

<sup>52</sup> Rutherford, "Green Governmentality," 297.

<sup>53</sup> Jonathan Murdoch and Nkil Ward, "Governmentality and Territoriality: The Statistical Manufacture of Britain's 'National Farm,'" *Political Geography* 16, no. 4 (May 1997): 307–24.

farmers produced the “fictive space known as the national farm,” “stripped of its place-based specificity and instead was made knowable as one part of a larger national economy.”<sup>54</sup>

These examples demonstrate the importance of analyzing how the shelterbelts themselves are managed, measured and described by the government, and what role this management plays in the outcome of the PSFP. As the previous chapter highlighted, the scientific discipline of forestry offered a particular technical rationality of the project in the Farmers’ Bulletins, but which could not be overtly imposed on farmers. Therefore, these bulletins can offer a glimpse into how biopolitical management of the Great Plain’s environment and population relate to the PSFP’s environmental rationality. This analysis in the second chapter will take a look at bulletins related to the PSFP, and try to discern biopower within them. This will be done by looking at how the purpose of the shelterbelt is presented and how they measure the effectiveness of the shelterbelt, for the ultimate purpose of discerning how this management of trees impacts the governance of farmers. The bulletins *The Windbreak as a Farm Asset* and *Arbor Day: its Purpose and Observance* are the most revised, indicating their importance, and will therefore have their own separate sections. A selection of individual bulletins will be looked at collectively.

### The Windbreak as a Farm Asset

*The Windbreak as a Farm Asset* was revised from 1917 until 1944, with the relevant revisions for this analysis being the ones from 1936 and 1940. This bulletin evaluates the advantages and disadvantages of having a windbreak on the farm, and was therefore written for any farmer uncertain about how to plant shelterbelts or how it would impact their farm. The most immediate impression from these bulletins about shelterbelts is that they serve many purposes. In the 1936 edition, shelterbelts “prevent the soil from drying out quickly,” “protect

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<sup>54</sup> Rutherford, “Green Governmentality,” 297.



grainfields and orchards from mechanical injury,” protects “[the farm buildings] from extreme winter cold, as intensified by the wind, and by its shade and verdure in summer makes the farm a pleasanter place in which to live.”<sup>55</sup> They may also be a “source of wood supply for use on the farm or for sale.”<sup>56</sup> More advantages are added to the 1940 edition, which also emphasizes that they can “conserve moisture by reducing winds” as to “benefit the growth of crops.”<sup>57</sup> Additional advantages of having a shelterbelt on the farm were of course also discussed in the other sections of the bulletins. Specifically, each revision had a section that deals with the effects the windbreak has on the farm called the “Effect of the windbreak on yield of crops.”<sup>58</sup> In this section, success of the shelterbelt is measured in terms of “bushels per acre.”<sup>59</sup>

What becomes clear however in reading these bulletins is that there was a noticeable emphasis on both the advantages as well as the disadvantages of planting a shelterbelt; “the good and bad effects which may be expected.”<sup>60</sup> For instance, in the beginning of the section “Effect of the windbreak on yield of crops,” the bulletin states plainly that the “effect of a windbreak on crops grown near it is not beneficial in every respect and in certain ways is plainly injurious.”<sup>61</sup> The bulletin makes it clear that the farmer should weigh the “benefits derived from their influence on wind movement, temperature, and evaporation” with the “injury resulting from the sapping and shading of the ground nearby plus the value of the crops displaced, if more than a single row of trees is used.”<sup>62</sup> In this sense, the negative effects of shelterbelts are presented together with the importance of simply planting a shelterbelt correctly. For instance, in the abstracts from 1936 onwards, they begin mentioning that they will also cover “what

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<sup>55</sup> Bates, “The Windbreak as a Farm Asset,” (1936), abstract.

<sup>56</sup> Bates (1936), abstract.

<sup>57</sup> Bates, (1940), abstract.

<sup>58</sup> Bates (1936), 1.

<sup>59</sup> Bates (1936), 12, 13, 14.

<sup>60</sup> Bates, (1936), abstract.

<sup>61</sup> Bates (1936), 11.

<sup>62</sup> Bates (1936), 11-12.

species should be planted where only the hardiest succeed, and the care needed to maintain healthy tree growth.”<sup>63</sup>

### Arbor Day: its Purpose and Observance

*Arbor Day: its Purpose and Observance* was a series revised from 1926 until 1940, with the relevant revisions for this analysis being in 1936 and 1940. The PSFP is mentioned in both editions, referring to the project’s aim of “restoring thousands of acres of denuded lands to tree growth.”<sup>64</sup> The 1940 revision also claims that the success of PSFP was based on trial and errors of the early Arbor Day movement.<sup>65</sup> Nonetheless, the focus of the bulletin is on the holiday of Arbor Day, and explains why and how the holiday is observed throughout the nation. In later editions, it also describes the effort of the PSFP and the usefulness of shelterbelts on the farm. This bulletin is aimed at any farmer interested in learning about Arbor Day as well as how to commemorate it. From reading these bulletins, it becomes clear that, similar to the previous bulletin, there are a multitude of reasons to plant trees. For instance, each bulletin’s abstract with slight variation states that Arbor Day has become associated all over the United State with “economic as well as patriotic and esthetic ideas.”<sup>66</sup> Patriotism and economic ideas of planting trees is found in how “an abundant supply of timber has always had a basic influence on the development of the American Nation,” in terms of economic and social conditions and the “high standards of living characteristic of this country.”<sup>67</sup> Not only that, but planting trees leads to a “realization of the value of community and national foresight.”<sup>68</sup> For these reasons the holiday “partakes of the nature of Fourth of July celebrations or the observance of Washington's

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<sup>63</sup> Bates (1936), abstract.

<sup>64</sup> Forest Service, “Arbor Day,” (1936), 22.

<sup>65</sup> Forest Service (1940), 4.

<sup>66</sup> Forest Service (1936), abstract.

<sup>67</sup> Forest Service (1936), abstract.

<sup>68</sup> Forest Service (1936), abstract.

Birthday.”<sup>69</sup> The bulletin also mention the economic benefit of forest lands contributing to national welfare.<sup>70</sup> Planting trees is also presented as aesthetic. As the bulletin makes clear: “a clean and beautiful town is a source of pride to its citizens and a constant incentive to them to go on and do better. A slovenly town is apt to mean slovenly inhabitants.”<sup>71</sup>

The bulletin also discusses planting trees on the farm, for example stating that “every farmer needs wood for fuel and fence posts,” as well as “protection for orchards field crops, and buildings from the winds that sweep unhindered over that vast plains region.”<sup>72</sup> The section entitled “Forest planting on farms” elaborates on this point.<sup>73</sup> Here, the shelterbelt is described as a “good way of putting land to work, thereby increasing the value of the land and later making it bring in a money return.”<sup>74</sup> Additionally, this section includes information for the farmer to purchase low-priced planting stock from State nurseries.

A value of conservation is also present in the bulletins, but often not by name. For instance, each abstract refers to the importance of the nation’s forests being a “never-failing source of wood, water, and other necessities of life and civilization.”<sup>75</sup> Additionally, in all the bulletins, a speech by President Coolidge in 1925 is referred to: “There must be a change in our national attitude. Our industries, our landowners, our farmers, all our citizens must learn to treat our forests as crops, to be used but also to be renewed.”<sup>76</sup> Conservation is also emphasized in the way in which planting trees has “become a symbol of our faith in the future.”<sup>77</sup> However, the value of conservation becomes more explicit in the 1940 revision which includes a whole section on “Arbor Day and forest conservation.”<sup>78</sup>

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<sup>69</sup> Forest Service (1936), abstract.

<sup>70</sup> Forest Service (1936), 22.

<sup>71</sup> Forest Service (1936), 7.

<sup>72</sup> Forest Service (1936), 1-2.

<sup>73</sup> Forest Service (1936), 1.

<sup>74</sup> Forest Service (1936), 9.

<sup>75</sup> Forest Service, (1936), abstract.

<sup>76</sup> Forest Service, (1936), 23.

<sup>77</sup> Forest Service (1940), abstract.

<sup>78</sup> Forest Service, (1940), 1.

## Comparison to Unrevised Bulletins

Two main characteristics about the conceptualization of shelterbelts have been observed in the previous two bulletins. The first, is that they are emphasized as having a plurality of functions. These can also be observed in unrevised bulletins. This plurality of functions can be seen in many ways. For instance, *Crops Against the Wind on the Southern Great Plains* (1939) describes how numerous trees and shrubs were planted in the Great Plains during the 30s, for “wood-lot improvement, gully control, protection of dams and ditches, windbreaks, and cover for wildlife.”<sup>79</sup> In *Preventing Soil Blowing on the Southern Great Plains* (1937), the shelterbelt is described as being capable of “causing the piling up of sand and thus preventing it from scouring fields and damaging improvements.”<sup>80</sup> *Forestry and Farm Income* (1937) focuses on the financial benefit of having a forest from which to produce lumber, but admits that it also serves “as a windbreak for buildings, a shelter for livestock, a protection of valuable lands from erosion, a means of profitable employment for men and teams during otherwise spare or idle time, a place of recreation, and an improvement in the appearance of the farm.”<sup>81</sup>

The second characteristic is that the bulletins discuss the advantages and disadvantages objectively. There are some downsides to planting shelterbelts on the farm, and the bulletins do not attempt to hide this fact. Scientific objectivity is also evident in the other bulletins, which obviously stems from the disciplinary power within the discipline of forestry. This is foremost seen through the mentioning of the experiments have been undertaken and from which experiment stations. For instance, in *Planting and care of Shelterbelts on the Northern Great*

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<sup>79</sup> Glenn K. Rule, “Crops Against the Wind on the Southern Great Plains,” Farmers’ Bulletin 1833 (Washington: United States Department of Agriculture, 1939), 72.

<sup>80</sup> Chilcott, “Preventing Soil Blowing,” (1937), 25.

<sup>81</sup> Wilbur R. Mattoon, “Forestry and Farm Income,” Farmers’ Bulletin 1117 (Washington: United States Department of Agriculture, 1937), 1.

*Plains* (1937), its abstract begins by referring to how the “Northern Great Plains Field Station” aimed “to determine by actual trial the kinds of trees best suited to the different sections and the best methods of handling them.”<sup>82</sup> The bulletins’ objectivity is also evident in the usage of phrases such as “sometimes very efficient.”<sup>83</sup>

### Biopolitics of Great Plains’ Shelterbelts

This analysis has demonstrated that the Farmers’ Bulletins describe shelterbelts in a particular way. The presentation of the scientific study of shelterbelt offers the farmer an objective picture of its advantages and disadvantages. The advantages of the shelterbelt, i.e. the functions it can serve to the farm, the community and nation, are numerous and varied. Importantly, they predominantly are mentioned as benefitting productivity. The concept of biopolitics reminds us that this presentation of shelterbelts, and more generally of conservation practices, is not neutral, but in fact prescribes normality and abnormality onto the environment and ways of interacting with the environment. The characteristics of these norms will be established henceforth.

Describing shelterbelts objectively and as having many functions normalizes conservation as an optional choice to the farmer, who can weigh the advantages and disadvantages against their own needs. The framing of shelterbelts as having a plethora of functions is perhaps better understood as also being a plethora of solutions. As Robert Gardner argues, shelterbelts were considered to be a “technological fix for a particular set of problems.”<sup>84</sup> They were not described as nature, but instead as tools that were to “perform environmental and social engineering.”<sup>85</sup> Conceptualized as tools, their purpose was to firstly solve the immediate problem of soil degradation. However, the farmer could have other,

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<sup>82</sup> Wilson, “Planting and Care of Shelterbelts,” (1937), abstract.

<sup>83</sup> Chilcott, “Preventing Soil Blowing,” (1937), 25.

<sup>84</sup> Gardner, “Trees as technology,” 333.

<sup>85</sup> Gardner, 334.

individual problems that a shelterbelt could fix, and the Farmers' Bulletins covered those too. The shelterbelt was conceptualized as aesthetic and comfortable, as well as a source of lumber and enhancing crop growth, becoming a versatile tool and for most farmers, a wise investment. However, this came at a cost. A 1954 survey of the shelterbelts observed that "the primary purpose for planting a windbreak—to reduce wind flow – 'sometimes suffered to obtain secondary values.'"<sup>86</sup> The promotion of shelterbelts in many ways therefore normalizes farmer's freedom as more valuable than effective conservation practice. This conclusion appears increasingly odd after considering the persistent promotion of technical rationality by the foresters described in chapter one. If technical rationality values expert judgement, what is the reason for the PSFP sacrificing expert opinion?

Exploring the foundations of these norms within American agriculture may prove elucidating. In the Farmers' Bulletins, the term investment is often used to describe the shelterbelt, suggesting that the core problem addressed by shelterbelts was financial. In other words, the issues of soil erosion and drought were ultimately problems because they impacted agricultural output. This is reminiscent of the "fiscal forestry" characteristic of high-modernism, in which the forest was reconceptualized as an abstract representation of financial return.<sup>87</sup> Again, the desire for high-modernity is evident. This element of agricultural investment, in addition to emphasizing the farmers' choice, is therefore also characteristic of American agriculture. Donald Worster describes American agriculture as having a "business culture" that maintains a capitalist ethos.<sup>88</sup> Deborah Fitzgerald argues that an industrial logic developed within American agriculture, "explicitly modeled on factory and business practices."<sup>89</sup>

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<sup>86</sup> Droze, *Trees, Prairies, and People*, 45

<sup>87</sup> Scott, *Seeing Like a State*, 12.

<sup>88</sup> Worster, *Dust Bowl*, 6.

<sup>89</sup> Deborah Fitzgerald, *Every Farm a Factory: The Industrial Ideal in American Agriculture* (New Haven: Yale University Press, 2003), 9.

The effect of this conceptualization of agriculture on conservation is elaborated on by Tarla Peterson, who dissects the rhetoric of agricultural conservationists during the Dust Bowl.<sup>90</sup> Peterson notes that agriculture in the US has traditionally been motivated through two dominant discourses. The first is of profit-making, connected to the industrial nature of American agriculture noted previously. During the Dust Bowl, this discourse can be seen through an unrelenting “faith in the logic of expanding production.”<sup>91</sup> The second discourse is of civilizing the wilderness, connected to the idea of settling the frontier and Manifest Destiny. Her analysis demonstrates how this conceptualization of agriculture indirectly placed the responsibility of the Dust Bowl on the changing environment of the Great Plains. Questioning the abusive agricultural practices that a belief in profit-making and civilizing wilderness brought about would also mean a reassessment of these traditional, and ethicized discourses. The Farmers’ Bulletins can thus be understood not only as presenting the normality of conservation as a financial choice, but also simply the normality of the alteration, or civilizing of nature. Additionally, it has been demonstrated that these norms had been firmly established in American agriculture for quite some time. This assessment is reaffirmed by Hannah Holleman, who describes the policy response to the Dust Bowl as “maintaining (...) social status quo in agriculture,” putting “limits on the ecological, as well as social, agenda.”<sup>92</sup>

This look at the underlying discursive foundations of the values that biopower normalized in the Farmers’ Bulletins has revealed that despite technical rationality’s faith in empirical evidence and the scientific method, there was still a definite and steadfast aim to maintain the status quo that can only be explained as a cultural rationality. To clarify, this status quo is clearly associated with environmental narrative. Civilizing the Great Plains is an element

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<sup>90</sup> Tarla Rai Peterson, “The Will to Conservation: A Burkeian Analysis of Dust Bowl Rhetoric and American Farming Motives,” *Southern Speech Communication Journal* 52, no. 1 (December 1986): 1–21.

<sup>91</sup> Peterson, 9.

<sup>92</sup> Hannah Holleman, *Dust Bowls of Empire: Imperialism, Environmental Politics, and the Injustice of “Green” Capitalism* (Yale University Press, 2018), 232

of the progressive narrative, in which a “trackless waste” was turned into “a grassland civilization.”<sup>93</sup> By this logic it is possible to see how the narrative of progress may motivate the normalization of shelterbelts as financial investments and farming as a business, in direct opposition to the expert opinion. Initially, this seems contradictory to William Cronon’s assessment that the PSFP and the New Deal were primarily motivated by the declensionist narrative, that the limits of nature were not respected, and the Great Plains have suffered because of it. This can still be the case, because fundamentally, the PSFP does require a belief in a state of the Great Plains that has been corrupted and that needs to be restored. However, the biopolitical analysis of USDA Farmers’ Bulletins has shown that this ideal state still positions itself in the realm of conservation and sustainable profitability, as opposed to preservation and the intrinsic worth of nature. In other words, it seems difficult to entirely separate the two narratives of progress and declension, and as a result, a form of cultural rationality infiltrates the governance of the PSFP.

This chapter aimed to address the limits of disciplinary power by dissecting how normality was prescribed during the PSFP. Through the Farmers’ Bulletins management of the shelterbelt and the shelterbelt farmer, it can be seen how biopower managed to compromise the “private sphere of activity” that limited the ambitions of high-modernism.<sup>94</sup> Through measuring the success of shelterbelts in economic terms, and framing shelterbelts as investments, the farmer is normalized as a business owner, and the environment as their product. Shelterbelts becomes nothing more than the means to achieve the ultimate purpose of increasing individual productivity, or at least solving disturbances in productivity. How did these environmental norms translate to action during the PSFP? To answer this, it is necessary to take a look at how

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<sup>93</sup> William Cronon, “A Place for Stories: Nature, History, and Narrative,” *The Journal of American History* 78, no. 4 (1992): 1370.

<sup>94</sup> Scott, *Seeing Like a State*, 101.



the subjects themselves operated within these power-relations, which will be handled in chapter 3.

## Chapter 3: Subject Formation

In the first chapter, disciplinary power was uncovered to work on the forester, thereby altering the technical rationality promoted by the PSFP, but was limited in explaining how this translated to impacting farmers. In the second chapter, biopower helped to explain how the ambitions of expert foresters was conveyed to farmers through normalizing conservation as a financial choice as well as reaffirming a domination over nature through farming. Additionally, the second chapter elaborated how these norms are important elements of a cultural rationality in the PSFP, as they were shaped by a mythos of civilizing nature and an unrelenting faith in productivity. Still, yet to be determined is how these norms translated to action during of the PSFP. To do this, a look at the subjects carrying out the project is needed.

As the first chapter stated, Foucauldian power differs from other conceptualizations of power due to its recognition of power as pervasive and constitutive, thereby also questioning the kind of subject being formed in power relations. This thesis has therefore still predominantly taken a top-down approach. Nonetheless, as Rutherford explains, “an important part of the governing of nature is examining how subjects encounter and understand themselves within it.”<sup>95</sup> Foucault’s concept of subject formation specifies this point. Subject formation describes how individuals not only are constituted by power relations, but also constitute themselves as subjects through the practices that they undertake, in relation to societal institutions and social norms. In other words, “subjectivity is not distinct from but is rather formed in and through relations of power.”<sup>96</sup> Again, this is not to say that power works on the individual unilaterally, but rather that “individuals are the vehicles of power” themselves.<sup>97</sup>

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<sup>95</sup> Rutherford, “Green Governmentality,” 298.

<sup>96</sup> Dianna Taylor, “Practices of the Self,” in *Michel Foucault: Key Concepts*, ed. Dianna Taylor (Durham: Routledge, 2011), 173.

<sup>97</sup> Rutherford, “Green Governmentality,” 298.

What is of interest to this analysis is to firstly understand which subjectivities become normalized in the present power relations. By recognizing the interconnection between power and truth, it becomes clear that gaining access to the truth requires a “process of self-abnegation,” due to the admittance of subordination “to certain externally generated truths.”<sup>98</sup> In other words, “subjectivity is achieved only by way of a sacrifice of self.”<sup>99</sup> This is as much a passive acceptance as it is an active participation of the individual in practices and norms. Particularly noteworthy practices are technologies of the self. Technologies of the self are the practices “in which people choose to become certain kinds – often more virtuous kinds – of subjects.”<sup>100</sup> In the case of green governmentality, they depict the “virtuous and immoral ways to encounter nature, good and bad solutions to environmental problems and the tools for individuals to be responsible for their actions.”<sup>101</sup> They are often broken down into manageable steps, meaning that all that must be done is to apply them to one’s life. Secondly, understanding the normalized subjectivities also involves understanding the various ways of resisting and criticizing these subjectivities. After all, if resistance is always in relation to power, then resistance is not “anterior to power, but a component of it.”<sup>102</sup> Lastly, with these subjectivities and critiques in mind, we can begin to articulate the role that technical and cultural rationality played in the success of the PSFP.

## Power and Subjectivity

As was made clear, subjectivities are in direct relation to power. In the first chapter, the analysis of power relations revealed how the power to produce knowledge also impacted the terms of its management. This highlighted how the value of conservation over preservation, as

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<sup>98</sup> Taylor, “Practices of the Self,” 174.

<sup>99</sup> Taylor, 174.

<sup>100</sup> Rutherford, “Green Governmentality,” 298.

<sup>101</sup> Rutherford, 299.

<sup>102</sup> Rutherford, 296.

well as social benefit over environmental benefit, became paramount to the project. The analysis of power relations also revealed how disciplinary power formed specialists such as the forester. The specialist can be considered the first relevant subject, as they are the ones conducting the project and writing the Farmers' Bulletins. Importantly, as a specialist, they are dependent on their access to specialized knowledge, and dually, their self-sacrifice. The forester for instance, "gains and maintains access to that knowledge only through adhering to accepted norms and practices" within the discipline of forestry.<sup>103</sup> These norms and practices are multiple, but include adhering to the values of conservation and societal benefit described before, and primarily, as a scientific discipline, is the adherence to the scientific process and faith in technical rationality. One place to see these norms in practice was in how the Farmers' Bulletins aimed to be as objective as possible, described in the second chapter. In other words, to be a good forester, it was important not to let politics cloud your vision, which was done particularly through the practice of naming both advantages and disadvantages in the bulletins. This value of objectivity highlights the rhetoric of rationality typical of high modernity. During the New Deal there was an ideal of the "gardening state," a modern, rationally planned and managed agricultural sector.<sup>104</sup> In this framework, the aim of the expert forester is a crucial figure in the implementation of high modernism's "rational design of social order."<sup>105</sup>

Importantly however, to implement a high modernism to the agricultural sector in the Great Plains, rationality must also be afforded to the farmer, who was given power over the outcome of the project. Therefore, it must be assumed that they are capable of making a rational and educated choice. This elaborates the second relevant subjectivity; of the farmer as an autonomous entity. In this sense the ideal of paternalistic educational rhetoric and farmer's autonomy can be seen as deriving from the same enlightenment belief in progress and

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<sup>103</sup> Taylor, "Practices of the Self," 184.

<sup>104</sup> Kiran Klaus Patel, "In Search of New Beginnings," in *The New Deal, A Global History* (Princeton: Princeton University Press, 2016), 64.

<sup>105</sup> Scott, *Seeing Like a State*, 4.

rationality. The farmer's subjectivity can begin to be understood through the analysis of power relations, which clarified how biopower was exercised by the USDA over the Great Plains' farmer. This understanding can be furthered through the farmer's relation to the Farmers' Bulletin. The Farmers' Bulletins elaborate how there was knowledge to be gained, and subsequently, to gain access to agricultural knowledge, the farmer must admit their subordination to the institution of the USDA. The technologies of the self that are available to the farmer can be discerned with a look at the Farmers' Bulletins.

Does a good farmer practice conservation? In *The Windbreak as a Farm Asset*, a "good farmer" is described as one who "uses cultural practices which are in part designed to hold the moisture in the soil for the use of crop plants."<sup>106</sup> However, as the bulletin mentions, this is done with knowledge that entirely preventing loss of soil moisture is not possible, but rather "will only retard the process so that the supply lasts longer."<sup>107</sup> In other words, the good farmer is one who does not aim for sustainability unreasonably, but makes the best out of the situation to remain productive longer. Another bulletin, *Crops Against the Wind on the Southern Great Plains* states that the "controls and cures for wind erosion, previously set forth, have been outlined under the assumption that the soil is in a workable condition and that only normal good farming practices, which include the more recent soil- and water-saving measures, are necessary to hold the soil against the wind."<sup>108</sup> In the first description, it seems to frame the cultural practices of water-saving as a good option out of many to remain productive, while in the second description the water-saving practices are the only option, if the soil is in a workable condition. In both cases however conservation is framed as a practical solution under certain conditions. In other words, there are ideal times and contexts in which to apply conservation, and both bulletins therefore assume that the farmer can read the Farmers' Bulletin and

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<sup>106</sup> Bates, "The Windbreak as a Farm Asset," (1936), 9.

<sup>107</sup> Bates (1936), 10.

<sup>108</sup> Rule, "Crops Against the Wind on the Southern Great Plains," (1939), 43

determine the appropriate response to loss of moisture. Thus, a good farmer is one who can use conservation appropriately.

This is all consistent with our analysis of biopolitics. The second chapter analyzed the discourses found in the management of the shelterbelt and the affected Great Plains farms, revealing the consistent insistence on the farmer's possibility to choose. These are also related to the traditional and ethicized discourses that normalized farming on the Great Plains to begin with, and the framing of the farmer as a business owner. As the previous chapter highlighted, profit became the measure of success of shelterbelts. Importantly, this was not a one-sided endeavor; despite the self-described objectivity of foresters, they still operated within the same cultural rationality by determining the effectiveness of a shelterbelt through its profitability and usefulness. For instance, *Arbor Day: its Purpose and Observance* cites Theodore Roosevelt who stated that "when you help to preserve our forests or plant new ones, you are acting the part of good citizens."<sup>109</sup> The stated reason for this is that because without forests we would not have their benefits: "a true forest is not merely a storehouse full of wood, but, as it were, a factory of wood and at the same time a reservoir of water."<sup>110</sup> Here, we see the idea of trees as productive tools enforced. With this in mind, it suggests that being subordinate to the USDA involved practicing agriculture as a business. In this paradigm, a good and normal farmer is one who is profitable, and a bad, abnormal farmer is unprofitable. A good farmer is therefore also one who can make appropriate choices as to the conservation practices they choose to employ in order to remain profitable. In this light, the Farmers' Bulletin can be understood as an important technology of the self. A good farmer is one who is proactive, stays informed and understands their options, which can be achieved through attaining and reading the Farmers' Bulletin.

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<sup>109</sup> Forest Service, "Arbor Day," (1936), 20.

<sup>110</sup> Forest Service (1936), 20.

The Farmers' Bulletin as a technology of the self clarifies its place in the relationship between the farmer and the specialist. The normal and good forester is one who presents scientific information objectively to the farmer in the Farmers' Bulletins. This is also believed to be entirely possible, despite the previous chapter elaborating how the Farmers' Bulletins nonetheless still measured success in productiveness and profitability. The abnormal forester is one who is too overtly political, and therefore does not maintain the illusion of objectivity. The normal and good farmer is one who is proactive, a wise investor, and therefore profitable and productive. They take in the information provided to them by the USDA, digest it, and make up their mind rationally and by their own accord. This disregards the fact that the farmer's success is influenced by a cultural rationality based upon productivity, which is also enforced by specialists. The point here is to demonstrate how the "(self-)constitution" of the specialist and farmer "both enables and constrains" their abilities to effectively care for the environment.<sup>111</sup> The emphasis on productivity allows the farmer to adopt conservation practices that the specialist describes as productive, but also is exactly what causes irresponsible farming practices in the first place. Nevertheless, as Foucault describes, these subjectivities are not imposed on a mindless population. Subjects are agents of power, and just as they can adopt dominant subjectivities, they have the ability to critique and resist them.

## Resisting the PSFP

James Scott reminds us that much resistance from rural populations does not come in the form of large-scale and organized insurrections. Instead, many of the weapons available to relatively powerless groups include acts such as "foot dragging, dissimulation, desertion, false compliance, pilfering, feigned ignorance, slander, arson, sabotage, and so on."<sup>112</sup> The most

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<sup>111</sup> Taylor, "Practices of the Self," 184.

<sup>112</sup> James C. Scott, *Weapons of the Weak: Everyday Forms of Peasant Resistance* (New Haven: Yale University Press, 1987), xvi.

obviously exhibited forms of resistance from PSFP farmers seems to be exactly these minor objections, directed at the scale and degree of the project. Joel Orth describes the numerous compromises made by foresters to farmers that undermined the project's success, including the narrowing of belts and the selection of faster growing trees.<sup>113</sup> Another point of resistance seems to be the neglect of shelterbelts, or the complete removal of them within a few years. Particularly during WWII, when wheat prices shot up and manpower decreased, farmers greatly reduced their cultivation of belts: in 1944 "only 56 percent of the more recently established belts (...) received adequate cultivation."<sup>114</sup> In 1966, Plains forestry experts reported that "although impressive numbers of tree windbreaks have been planted on the Plains, we estimate that not more than 5 percent of the lands in need of protection are now adequately protected."<sup>115</sup> A 1940 survey of Kansas farmers conducted by the PSFP state office "placed loss of land at the top of farmer concerns, beating out absentee ownership, unwillingness to fence, and lack of moisture - the other top complaints - by a considerable margin."<sup>116</sup> The farmers that objected to the project can therefore be understood as not wanting to be governed the way the USDA wished. Therefore, in objecting to the form of the PSFP, they also questioned certain externally generated truths of the USDA.

However, if the dominant farmer's subjectivity is of productivity and profitability, this critique is not critique of their own subjectivity. The suggestion instead is that they are critiquing the imposition of norms and practices outside of their subjectivity. The specialists within the USDA are thereby understood as instigators. The farmer who is resisting the PSFP specialist is doing so due to their loss in profitability and productivity. In other words, this form of resistance was encouraged by the subjectivity of the farmer as a businessowner. This also asks us to not consider the farmers that didn't plant shelterbelts as uniformly against

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<sup>113</sup> Orth, "The Shelterbelt Project," 333–57.

<sup>114</sup> Droze, *Trees, Prairies, and People*, 235.

<sup>115</sup> Droze, 244.

<sup>116</sup> Orth, "The Shelterbelt Project," 343.



conservation, but rather, that this resistance came from their desire for profitability. Likewise, if it is possible that farmers objected to the PSFP largely due to its threat to their immediate productivity, then it is also entirely possible that many farmers only planted shelterbelts when it didn't threaten their productivity. In other words, conservation itself was not what farmers resisted. The significant drop in the care of shelterbelts during WWII underscores this. As Tarla Peterson explains, "in an environmental ethic that featured capitalistic farming principles, conservation no longer 'paid.'"<sup>117</sup> Many of the farmers that planted shelterbelts initially only did so because of the short-term benefits, suggesting that farmers were not strictly for or against conservation in and of itself.

Critique is understood as emancipatory by Foucault. Loosening "the relationship between truth and power that characterizes modern subjectivation" facilitates "the development of new, emancipatory forms of subjectivity."<sup>118</sup> This analysis of resistance has suggested that while critique may be emancipatory, it can also facilitate environmental destruction. Likely, this is because again, critique is not anterior to power, but a component of it. The power structure of the project made the central issue about productivity and profitability, not conservation. In this way, we can see how emancipation can be more complicated than previously imagined. Emancipation is largely considered to be dichotomous; farmers that opposed the PSFP, which on its surface stands for conservation, are generally considered to also be opposed to conservation. This analysis of subject formation during the PSFP has demonstrated that this is not entirely true. Understanding subjectivity reveals that the issue may be deeper than that which is overtly stated, and that subjectivities themselves can be the site of support or resistance. What then, was the source of disagreement?

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<sup>117</sup> Peterson, "The Will to Conservation," 15.

<sup>118</sup> Taylor, "Practices of the Self," 174.

## Subjectivity and Narrativity

Environmental narrative offers the ability to begin to examine the source of environmental rationality. As mentioned previously, William Cronon has labelled the New Deal as adopting a declensionist narrative of the Great Plains, telling “a tale of self-deluding hubris and refusal to accept reality.”<sup>119</sup> This explains the role of the specialist’s subjectivity, whose scientific objectivity and ambitions of progress and modernization are the means to fix the destruction of the Great Plains. Nonetheless, in the second chapter’s analysis of environmental norms presented during the PSFP in the Farmers’ Bulletins, it became clear that there was still a lack of questioning the traditional and ethicized discourses that surrounded the entirety of American agriculture. As a result, there was little sense that the PSFP fundamentally questioned the status quo, as they continued to support discourses of farming for profit and conservation as a financial choice. In this sense, while the foresters of the PSFP may have had a belief in a natural and ideal state of the Great Plains that has been corrupted, this ideal state may be less about the intrinsic worth of nature and more about maintaining a sustainable level of productivity.

Due to narrativity being a crucial arena for “moral agents and political actors,” the political ambitions of these subjects cannot be ignored.<sup>120</sup> Therefore, another conclusion from the kind of declensionist narrative adopted by the PSFP is that this narrative also serves to position the specialist and the backing government as the solution to environmental crisis. If the Great Plains is in decline, then it must be restored. Similarly, the farmer’s subjectivity has been demonstrated to be rooted in their autonomy; the “private sphere of activity in which the state and its agencies may not legitimately interfere.”<sup>121</sup> This autonomy, typical of American individualism, is heavily connected to the mythos of civilizing nature; having autonomy is a

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<sup>119</sup> Cronon, “A Place for Stories,” 1357.

<sup>120</sup> Cronon, 1370.

<sup>121</sup> Scott, *Seeing Like a State*, 101.

crucial element of turning the Great Plains from a wasteland into a productive and habitable environment. Thus, the most accessible narrative to the subjectivity of the farmer becomes the progressive narrative.

However, the difficulty to distinguish between the narratives should not be overlooked. In chapter two, the PSFP's declensionist narrative can be seen to still consider profitability and productivity. In this chapter, resistance has revealed itself to also be primarily about these same traditional and ethicized agricultural discourses. If the power structure of the project made the central issue about productivity and profitability, not conservation, this is the same power structure that supports these subjectivities and narratives. The connection between the narratives is therefore exposed through the way in which they operate within the same power structures, highlighted particularly well by Carolyn Merchant, who additionally remind us that the narrative of declension and progression have much in common. Merchant argues that both narratives are a part of a recovery meta-narrative characterized by the same desire to restore nature to some imagined condition, and the belief that "both nature and human nature [are] capable of redemption."<sup>122</sup> In other words, in addition to traditional and ethicized agricultural discourses, narrative is then another site of common ground between the subjectivity of the farmer and forester. This common ground is crucial in understanding why the forester's technical rationality could concede to cultural rationality; important elements of cultural rationality, including narratives and discourses, were shared between the subjectivities of foresters and farmers. This made it possible and realistic to accommodate the farmer's desire for autonomy, enabling and improving the PSFP's possibilities for success.

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<sup>122</sup> Carolyn Merchant, *Reinventing Eden: The Fate of Nature in Western Culture* (London: Routledge, 2013), 55.

## Conclusion

The governance of rural Great Plains' populations is far more complicated than what can be analyzed solely through the Farmers' Bulletins. Nonetheless, the Farmers' Bulletins allow a unique view at a rhetoric that was being presented to hundreds of thousands of farmers impacted by environmental crisis. This rhetoric has been analyzed together with an understanding of power and knowledge involved during the project. Governmentality has provided a framework by which to begin to understand how environmental and agricultural change can come about in a democratic society, as change of these kinds requires public support. Mentalities of government, both technical and cultural rationalities, thereby become important facilitators of environmental policy. In the case of the PSFP, encouraging farmers to cooperate with foresters in the planting of trees was crucial. This thesis therefore began its investigation by questioning how the success of the PSFP was influenced by certain kinds of rationalities towards the environment.

Through analyzing disciplinary power, it became clear that the lens of discipline would not explain the entirety of the PSFP's functioning. While disciplinary power was exercised over foresters, explaining how foresters were motivated by technical rationality, the extent to which disciplinary power could be exercised over farmers was severely limited. Biopower on the other hand explains the way in which farmers were still influenced by the project, by opening up a distinction between normal and abnormal environments. These norms and their foundations in American agriculture are shown to be pervasive, both in the values of farmers and foresters, and indicate themselves as an element of cultural rationality in the project. The norms discerned in the second chapter also allowed for an analysis of not only environmental normality, but also subject normality. In the third chapter, through subjectivity, it becomes clear that despite conflict between the subjectivities and narrativity of the farmer and forester, there were nonetheless many commonalities. While the PSFP had large-scale plans, at no point did the

PSFP sincerely question the entire discursive, political and economic foundations of American agriculture that pervaded the farmer's subjectivity as well. These commonalities enabled the opportunity for technical rationality to concede expert opinion to cultural rationality. This is why expert opinion was de-emphasized in favor of the ability for the farmer to choose. In this sense, it has become clear that the success of the PSFP was influenced by technical rationality's relationship to an American cultural rationality.

The PSFP was enabled but also constrained by these mentalities of government. They are what allowed the PSFP to succeed so incredibly in planting 220 million trees, but they are also what has enabled their significant lack of upkeep. To reiterate, the framing of the shelterbelt as an optional, incredibly versatile investment positively widened the appeal to many farmers whose subjectivity of autonomy was appeased. Negatively however, the same underlying discourses also helped support industrial farming for maximum profit and the positioning of conservation as merely a temporary solution to loss of productivity. This thesis therefore suggests that it is difficult to speak of universally successful environmental policy, due to the drastic impact that different contexts of cultural rationalities can have. Similarly, James C. Scott's high-modernism ideology is exercised in various ways in different national agricultural contexts. This equally extends to environmental policy. It now seems possible to consider the effectiveness of environmental policy within a specific cultural and social context. As this thesis has demonstrated, one of the aspects of the context seems to be the technical and cultural rationalities towards the environment, which in this case study played a large role in the shape environmental policy could take. The environment is governed within a context of rationalities, and this must be taken into account when dealing with crisis.

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### **Figures**

- Figure 1. *Wind erosion in the Great Plains in the 1930s*, in Zeynep K. Hansen and Gary D. Libecap, "Small Farms, Externalities, and the Dust Bowl of the 1930s," *Journal of Political Economy* 112, no. 3 (June 2004): 669.
- Figure 2. US Forest Service, *Possibilities of Shelterbelt Planting in the Plains Region*, 1935, in Joel Orth, "The Shelterbelt Project: Cooperative Conservation in 1930s America," *Agricultural History* 81, no. 3 (July 1, 2007): 335.
- Figure 3. USDA. *Effect of Tree Planting on Wind Velocity*. 1945. Public Radio International. Accessed March 27, 2020. <https://www.pri.org/stories/2018-02-03/trees-helped-save-americas-farms-during-dust-bowl-are-now-under-threat>