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Impact of Executive Order 13211 on environmental regulation: An empirical study

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HIGHLIGHTS

- We examined the impact of Executive Order 13211 on US environmental and conservation regulations.
- EO 13211 had little effect on environmental and conservation actions during federal rulemaking.
- Most agencies found no "significant energy action" and no need for detailed regulatory review.

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ABSTRACT

A great deal has been written about the Energy Policy Act of 2005 exempting oil and gas operations using hydraulic fracturing from the purview of certain federal environmental laws. Far less attention has been paid to George W. Bush's Executive Order 13211 (EO 13211), entitled "Actions Concerning Regulations that Significantly Affect Energy Supply, Distribution or Use." The Executive Order requires federal agencies to evaluate the impact of federal regulations on "supply, distribution and use of energy."

This study examined the impact of EO 13211 on United States environmental and conservation regulations proposed and promulgated by federal agencies. The study found that during rule making proceedings, EO 13211 had almost no effect on environmental and conservation actions taken by federal agencies. Most federal agency rules, both proposed and final, evaluating energy impacts pursuant to EO 13211 found no "significant energy action" and accordingly did not necessitate further regulatory review. In most cases, energy evaluation was routine, did not alter environmental or health policy and was reflected in brief, boilerplate language.

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1. Introduction

In the interim period between the time when President Obama was elected and he took office his transition team asked for policy suggestions as to what the administration could accomplish in the historically significant "first 100 days." Many groups submitted suggestions. The Center for Progressive Reform, a group of law professors, suggested that the new Obama administration could "protect public health with the stroke of a Presidential pen" (Bratspies et al., 2008). Among the priorities the group urged the Obama Administration was to revoke George W. Bush's Executive Order 13211 (EO 13211) entitled "Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use" (Bratspies et al., 2008). EO 13211 requires all federal agencies to prepare Statements of Energy Effects (SEE) whenever a federal action may have a "significant adverse effect" on energy supplies, distribution, or use (Bush, 2001). President Obama declined to revoke EO 13211 and the mandates of the order continued throughout the Obama administration.

While a great deal of scholarly and public attention focuses on the Halliburton loophole of the Energy Policy Act of 2005 that excludes the oil and gas industry from certain environmental regulations including Safe Drinking Water Act, (EPA, 2005) the lesser-known EO 13211 warrants closer analysis for its potential impact in support of shale oil and gas extraction and development (Bratspies et al., 2008; Heinzerling, 2014). EO 13211 was the target of environmental group consternation both when promulgated by President Bush and again when President Obama took office (Van Natta and Banerjee, 2002) and decided not to reverse the directive

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to evaluate energy impacts of proposed federal policy (Bratspies et al., 2008). This study sought to evaluate whether the concern was warranted.

EO 13211's application hinges on whether a federal regulation will have a "significant adverse effect" on energy. EO 13211 does not explicitly set out what constitutes a "significant adverse effect" and in turn when a SEE is required. Most agencies, however, adopt the definition in Executive Order 12866 (EO 12866), which deems a regulatory action significant if the action will have an annual effect on the US economy of $100 million or more (Clinton, 1993). Further guidance of EO 13211's application was provided by the U. S. Office of Management and Budget (OMB). In a 2001 memorandum, OMB outlined when a significant energy affect may arise under EO 13211. Specifically, OMB sets out nine outcomes that may constitute "a significant adverse effect" when compared to not undertaking the regulatory action in question. These criteria include could include reducations in (1) crude oil supply in excess of 10,000 barrels per day; (2) fuel production in excess of 4000 barrels per day; (3) coal production in excess of 5 million tons per year; (4) natural gas production in excess of 25 million mcf per year; (5) electricity production in excess of 1 billion kilowatt-hours per year or in excess of 500 MW of installed capacity; (6) energy use required by the regulatory action that exceed any of the thresholds above; (7) the cost of energy production in excess of one percent; (8) the cost of energy distribution in excess of one percent; or (9) other similarly adverse outcomes. (U.S. OMB, 2001) In the past fourteen years, federal agencies used each of these nine criteria in varying degrees to evaluate potential energy effects.

When triggered, federal agencies must submit the SEE to the OMB Office of Information and Regulatory Affairs (OIRA), the so-called "regulatory czar" (Sunstein, 2012). A summation of the SEE must be included in the federal agency's notice of proposed and final rulemaking. The purpose of preparing a SEE is to ensure that federal agencies "appropriately weigh and consider the effects of federal rulemaking on the supply, distribution, and use of energy" (Bush, 2001). If applicable, the SEE must include:

1) information on any adverse effects on energy supply, distribution, or use;
2) reasonable alternatives to the federal action; and
3) the expected effects of such alternatives on energy supply, distribution, or use.

Once submitted, OIRA acts as an "information aggregator." OIRA takes the SEE material prepared by the federal agency and synthesizes it with other materials that may include diverse points of view. OIRA's goal is ensuring that the public is able to provide meaningful comment on matters pertaining to the proposed rulemaking, including potential adverse energy impact, during the rulemaking process (Sunstein, 2012; Heinzerling, 2014).

This study used quantitative policy surveillance methods to examine how frequently federal agencies made energy impact analyses pursuant to EO 13211 (Presley et al., 2015; Geltman et al., 2015; Wagenaar and Burris, 2013). The study sought to examine whether, as feared by environmental groups, EO 13211 was being used by federal agencies to thwart environmental, natural resource conservation and other public health efforts as reflected in rulemaking reported in the federal register (Heinzerling, 2014; Bratspies et al., 2008).

The project began by collecting data from Lexis/Nexis and from dockets on Regulations.gov to determine how many federal regulations referenced EO 13211 and how many federal regulations included SEEs pursuant to EO 13211. The collected data was sorted to determine outlines using standard coding. The data was finally compared to the results of a literature review.

The study found no evidence that EO 13211 was invoked by federal agencies to prevent critical habitat designation or other environmental or public health protection. Both cross sectional and longitudinal review demonstrated that if EO 13211 has had any impact on federal environmental, natural resource conservation and public health actions the influence was prior to rule making. The vast majority of published federal agency rules evaluating energy impacts pursuant to EO 13211 determined that the proposed action would not be a "significant energy action" and hence did not require OMB review. Contrary to fear of environmental groups, we found little evidence that EO 13211 negatively impacted regulation of the environment, natural resources or health.

2. Methods

We began our study with a literature review to determine if any scholars had previously evaluated the impact of EO 13211 on environmental, public health and natural resource conservation rulemaking proceedings. To date, scholarly analysis of EO 13211 was minimal. Most studies merely mentioned the Executive Order briefly in the context of a larger environmental or energy discussion (Austin and Phoenix, 2005; Klopf et al., 2007; Johnson, 2008; Arbuckle, 2009; Shapiro, 2011).

We found only one study with a detailed analysis of EO 13211. The Kalen article applauded EO 13211, highlighting the order for its multidisciplinary approach to energy policy. In the 2005 study, the author portended that EO 13211's coordination amongst federal agencies would be instrumental in balancing energy and environmental concerns (Kalen, 2005). Ten years later, we sought to reevaluate and review the Kalen findings and predictions against the concerns raised by the Center for Progressive Reform (Bratspies et al., 2008).

2.1. Coding

We developed a preliminary set of questions for coding the regulations based on the results of the literature review. The questions developed for coding were evaluated and refined by our team of three in a series of discussions taking place a week a part. We used Computer Assisted Qualitative Data Analysis (CAQDAS) for coding (Chowdhury, 2015; Nind et al., 2015; Kaefer et al., 2015). Most questions were binary and mutually exclusive, requiring coders to answer "yes" or "no" to the CAQDAS prompt (Presley et al., 2015; Burris, 2014; Chriqui et al., 2011).

The first question asked what federal agency proposed the rule or regulation. This question was designed merely to identify the target agency engaging in rulemaking and was the only question that was not binary and mutually exclusive.

The second question inquired whether the express language of the proposed rulemaking as it appeared in the federal register and on Regulations.gov stated that EO13211 was applicable. The purpose of this question was to determine whether or not the agency included EO13211 in its regulatory review process submitted to OIRA (Heinzerling, 2014; Sunstein, 2012).

The third question used in coding asked whether the agency completed a statement of energy effects. This question sought to discover whether, after determining that an evaluation under EO13211 was needed, the agency conducted the review required to produce a SEE.

The fourth coded question asked whether or not the agency determined that the proposed rulemaking would be considered "a significant energy action" under EO13211. This question did not ask why the agency made that determination or what, if any, OMB criteria the agency considered important in making the judgment. The question only asked if the regulatory action was considered "a

significant energy action" by the federal regulatory agency.

The fifth question used for coding evaluated if the rulemaking was likely to have a significant adverse effect on the "supply, distribution, or the use of energy." Although all nine OMB factors were considered, we focused our attention on the "supply, distribution, or the use of energy" as a criteria because we were specifically interested in federal agency evaluation of regulations that might impact the practice of high volume, hydraulic fracturing (HVHF) in the United States (Werner et al., 2015; Ferrar et al., 2013; Perry, 2013; Goldstein et al., 2012; Bamberger and Oswald, 2012; Finkel and Law, 2011). Development and application of HVHF is often cited in both popular press and literature as a means for the United States to achieve energy independence. (Kappel et al., 2013; McCaffree et al., 2013; Russell, 2013; Wegener, 2013; Argetsinger, 2011) The practice of HVHF is expanding rapidly in the United States and abroad. (McKenzie et al., 2012*)* Numerous studies have been published regarding the potential environmental and health implications of the shale oil and gas extraction process. (Jemielita, et al., 2015*;* Kassotis, et al., 2015; Meng, 2015; Stacy *et al., 2015; Watterson and Dinan,* 2015*;* Werner et al., 2015; Adgate, et al., 2014; McKenzie et al., 2012*)* We wanted to know if EO13211 was being used to promote increased energy output at the expense of other health and safety regulation, including protection of the environment and natural resources.

The final question, asked if the agency determined that a SEE was required. Question six targeted the procedure used by the federal agency. Question six differed from question three in that it evaluated whether the agency spelled out the need for a SEE in its discussion of regulatory compliance with EO13211 rather than whether or not the SEE was drafted.

Three coders independently evaluated the sample set of regulations to ensure congruency in coding. The questions used for coding were refined for clarity and best word choice based on the pilot review.

Once the questions for coding were finalized, the three coders evaluated the regulations found in the data collection described below and recorded the results using CAQDAS. In each instance, a second coder crosschecked and verified results of the primary coder to ensure consistent coding. A third naïve coder conducted the final review to be sure all coders agreed on both the manner of coding and the results of each entry. In the few instances where the coders disagreed, the group met to discuss the results and a consensus decision on the coding was reached.

2.2. Data collection

2.2.1. Longitudinal Analysis: All Federal Agencies

For the longitudinal study, we examined the actions of all federal agencies from the date of promulgation until February 1, 2015, the date of research, to evaluate the effectiveness of EO 13211 on public health, natural resource conservation and the environment. (Presley et al., 2015; Ramanathan, 2015; Ransom, 2015; Burris, 2014; Wagenaar and Burris, 2013; Maguire and Sheriff, 2011; Chriqui et al., 2011) To gather data in the longitudinal study of all federal agencies, we conducted a series of searches using the Lexis/Nexis and Regulations.gov databases.

The three coders collaboratively developed standard search terms, which were finalized following a pilot phase of regulation review. Final search terms used to identify regulations considering the impact of EO 13211 included: "Executive Order 13211," "EO 13211" and "EO13211."

For the longitudinal study, we selected the Federal Statutes and Regulations database of Lexis/Nexis, refined the search using "advanced options" to include only materials published in the Federal Register and used the search term "Executive Order 13211" without date restrictions. Our search retrieved 999 published material records in which federal agencies invoked EO 13211 in a proposed or final rulemaking from the Executive Order's promulgation date to the present day. The search was repeated and yielded the same results. A random sample of every 10th record was then selected for evaluation.

2.2.2. Longitudinal Analysis: FWS, DOT & COE

After conducting a global review of federal agency action, we used Regulations.gov to evaluate activities, without date restrictions, in the Department of Interior Fish and Wildlife Service (FWS), the US Department of Transportation (DOT) and the Army Corps of Engineers (COE). Focusing first on FWS, we sought to address the particularly pressing question of whether EO 13211 impacted listing decisions and critical habitat designations pursuant to the Endangered Species Act (ESA). (Copeland et al., 2009) ESA designations are of particular interest because the incidental take provision of the ESA (ESA section 10a(1)(B), 1982) can impact where and how oil and gas activities are permitted (Brittingham et al., 2014; Northrup and Wittemyer, 2013; Robbins, 2012; Lendrum et al., 2012; Copeland et al., 2009; Doherty et al., 2008; Walker et al., 2007; Aldridge and Boyce 2007). Similarly, COE has jurisdiction over wetlands permits, (Clean Water Act, 1972) another ecologically sensitive regions associated with endangered species that could potentially affect oil and gas development. (Rahm and Riha, 2014; Drohan and Brittingham, 2012a; Drohan et al., 2012b; Wiseman and Gradijan, 2011; Arthur et al., 2010)

Again we used Regulations.gov's advanced search options to limit the search to FWS rulemakings, employing the same search terms: "Executive Order 13211," "EO13211" and "EO 13211" without date restriction. In so doing, we surveyed all FWS rulemakings invoking EO 13211 from the date of its promulgation. The search yielded 460 results. The coders disregarded duplicative material and secondary documents. We proceeded to code a total of 364 items using CAQDAS.

We repeated the process to examine the history of EO 13211 compliance by DOT and COE. We again used Regulations.gov's advanced search options repeating the search terms but limiting the scope of the search first to DOT rulemakings and next to search of COE rulemakings. We coded the results on using CAQDAS.

2.2.3. Cross Sectional Analysis: EPA, DOI, USCG, DOT & COE

For the cross-sectional portion of the study, we restricted our search to the past year ending on the date coding began. The search period was from February 1, 2014 to February 1, 2015. Using Regulations.gov, we evaluated EO 13211's impact on specific agency action before the:

1) United States Environmental Protection Agency (US EPA);
2) United States Department of the Interior (DOI);
   - DOI, Bureau of Land Management (BLM);
   - DOI, National Park Service (NPS);
   - DOI, Bureau of Indian Affairs (BIA);
   - DOI, Fish and Wildlife Service (FWS);
3) United States Coast Guard (USCG);
4) Department of Transportation (DOT);
5) United States Army Corp of Engineers (COE).

The federal agencies and divisions within the federal agencies were selected because they are statutorily mandated to provide certain environmental and conservation regulation and, as such, could have an important impact on long-term and short-term public health.

The coders eliminated items that were not agency action and excluded items that were duplicative. Coders also excluded documents related to rulemaking proceedings that did not constitute agency action itself, such as comments submitted by

Table 1
Cross Sectional Search Results: 2014.

Agency	Search term	Dates	Results	Coded
US EPA	Executive Order 13211	February 1, 2014 to February 11, 2015	428	398
DOI, Bureau of Land Management (BLM)	Executive Order 13211	February 1, 2014 to February 11, 2015	2	1
DOI, National Park Service (NPS)	Executive Order 13211	February 1, 2014 to February 11, 2015	6	6
DOI, Bureau of Indian Affairs (BIA)	Executive Order 13211	February 1, 2014 to February 11, 2015	4	4
DOI, Fish and Wildlife Service (FWS)	Executive Order 13211	February 1, 2014 to February 11, 2015	62	40
United States Coast Guard (USCG)	Executive Order 13211	February 1, 2014 to February 11, 2015	124	124
US Department of Transportation (DOT)	Executive Order 13211	February 1, 2014 to February 11, 2015	0	0
US Army Corps of Engineers (COE)	Executive Order 13211	February 1, 2014 to February 11, 2015	2	2

members of the public. Of the agencies reviewed, EPA had the largest number of regulations suitable for coding. We found and coded 398 proposed or final rulemakings by EPA. USCG had the second highest number of regulatory actions deemed appropriate for coding with 124 USCG actions. FSW had the third largest actions appropriated for coding, with 40 proposed or final rulemakings. Other DOI agencies had considerable less regulatory action suitable for coding. BLM had 1. NPS had 6. BIA had 4 federal rulemaking published in the Federal Register and on Regulations.gov that were appropriate for coding. COE, the agency charged with issuing wetlands permits, had only 2 actions in the past year and DOT had no actions that could be coded.

Table 1 summarizes the numbers of items retrieved in our search and the numbers of regulations coded for the cross sectional study.

3. Results

3.1. Longitudinal Analysis of All Federal Agencies: 2002-2015

In total we reviewed 1,023 regulatory actions across several agencies, including US EPA, USCG, COE, DOT and DOI – agencies all selected because of high potential public health based environmental policy. (Heinzerling, 2014) We excluded the Federal Energy Regulatory Commission (FERC) and the Department of Energy (DOE) because these agencies by definition evaluate energy policy in rulemaking (U.S. GAO, 2005).

In the random longitudinal study where we selected ten percent of 999 agency actions, there were no instances in which a federal agency invoked EO 13211 to preclude environmental practices. In all 99 instances of our sample, the federal agency determined that EO13211 was not applicable, that a SEE was not required, that there would be no significant energy effect (either positive or negative) caused by the agency action and that, as such, there would be no significant adverse effect on the supply, distribution or use of energy. In all cases EO13211 was discussed at the end of the proposed or final rulemaking in language that was highly standardized if not boilerplate.

> In many instances, the federal agencies (including EPA) simply stated:
> This rule is not subject to Executive Order 13211, "Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use" (66 FR 28355 (May 22, 2001)) because it is not a significant regulatory action under Executive Order 12866 (EPA, 2002a, 2002b, 2014a).

In other examples, the federal agency added verbiage but came to the same conclusion, as did the USCG in this analysis:

> We have analyzed this rule under Executive Order 13211, Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use. We have determined that it is not a "significant energy action" under that order because it is not a "significant regulatory action" under Executive Order 12866 and is not likely to have a significant adverse effect on the supply, distribution, or use of energy. The Administrator of the Office of Information and Regulatory Affairs has not designated it as a significant energy action. Therefore, it does not require a Statement of Energy Effects under Executive Order 13211.
>
> (USCG, 2004)

The results for the random sample of all agencies from 2012 to 2015 can be found in Table 2.

3.2. Longitudinal Analysis of DOT & COE: 2002-15

In the investigation focusing on long-term regulatory conduct of DOT and COE, we found no instance where the agency determined that the respective agencies proposed or final regulation was a "significant energy action" that could have a "significant adverse effect on the supply, distribution, or use of energy." Although we expanded our sample by looking at all DOT and COE actions, the results did not differ from the random longitudinal sample of all federal government agencies.

There were only twenty-four instances found in which the DOT cited EO 13211 since the order was first signed. In all such instances, DOT determined that the rulemaking in question did not have a significant energy action using language almost identical to that of EPA. Here is an example:

> Energy Effects
> We have analyzed these rules under Executive Order 13211, Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use. We have determined that they are not classified as a "significant energy action" under that order because they are a "significant regulatory action" under Executive Order 12866 and would not have a significant adverse effect on the supply, distribution, or use of energy (DOT, 2004).

Only a total of fifteen COE actions referenced EO 13211 since the order was promulgated. In all fifteen instances, including the hotly debated rule redefining waters of the United States (the so-called WOTUS rule), the COE determined that EO 13211 would not

Table 2
Random sample of all federal agencies: 2002–2015.

Rulemakings referencing EO13211	Yes/No	Totals
1. Analysis required	Yes	99
	No	0
2. Statement of energy effects (SEE) is required	Yes	0
	No	99
3. Significant energy action	Yes	0
	No	99
4. Significant adverse effect on the supply, distribution, or use of energy	Yes	0
	No	99

impeded the proposed federal rulemaking. (U.S. EPA, 2014a) In the case of the WOTUS rule, COE summarily concluded that redefining waters of the United States was not a "significant energy action" because the change in definition "is not likely to have a significant adverse effect on the supply, distribution, or use of energy" (U.S. EPA, 2014a). The analysis did not specify consideration of how the change in law might impact the ability to build and develop land needed for energy infrastructure, including land containing significant mineral rights. (Adler, 2015; Alexander, 2015; Hawkins, 2015) The WOTUS rule was challenged by private industry and 30 states. (Kramer, 2015) A federal judge stayed the WOTUS rule nationwide pending appeal, but the stay had nothing to do with EO 13211. (Inhofe, 2015)

3.3. Longitudinal Analysis of FWS: 2002-15

FWS was of particular interest because of the potential for ESA endangered species lists and critical habitat designation to conflict with oil and gas development activities. (Brittingham et al., 2014; Northrup and Wittemyer, 2013; Robbins, 2012; Lendrum et al., 2012; Copeland et al., 2009; Doherty et al., 2008; Walker et al., 2007; Aldridge and Boyce, 2007) In the past eight years, the US experienced a dramatic increase in shale oil and gas drilling due to technological triumphs in oil and gas extraction methods. (Brown and Yücel, 2013) These unconventional methods include HVHF and horizontal drilling that tap into previously unreachable resources that may lie in critical habitats for threatened or endangered species both on public and private lands that may become the target of oil and gas development. (Brittingham et al., 2014; Northrup and Wittemyer, 2013; Robbins, 2012; Lendrum et al., 2012; Copeland et al., 2009; Doherty et al., 2008; Walker et al., 2007; Aldridge and Boyce, 2007)

The use of novel technology heightens potential discord between FWS objectives and the oil and gas industry's drilling operations. Publicized examples include: the spot-tailed earless lizard and the lesser prairie chicken, a very colorful grassland grouse in Texas (Hiller, 2014); the Karner blue butterfly and Indiana bat in Michigan; (Fink, 2015; Center for Biological Diversity, 2013b) the California condors, San Joaquin kit foxes and blunt-nosed leopard lizards in California; (Phelan, 2013) and the diamond darter, a small river fish in West Virginia and Kentucky (Center for Biological Diversity, 2013a) Indeed, the conflict over drilling using HVHF in the habitats of these and other species was evaluated by DOI in numerous instances.

While FWS clearly evaluated energy impacts pursuant to EO 13211 during the life of the order from 2002 to the present, we found no instances where oil and gas drilling was prohibited due to ESA protections. In considering EO 13211 applicability, FWS applied the over 10,000 barrels per day test developed by OMB to determine whether certain regulations would have a significant adverse effect on energy. (DOI, 2004) In all cases in our sample, the FWS determined that, since the proposed action would not reduce production by 10,000 barrels a day, EO 13211 would not preclude the permit requirements dictated by the ESA.

In fact, the FWS commented that the incidental costs of ESA permit compliance were modest when compared to overall operational drilling costs (DOI, 2004). For example, FWS discussed EO 13211 compliance and the 10, 000 barrels per day test in its designation of critical habitat for the perennial, *Yermo xanthocephalus,* commonly known as the desert yellow head (DOI, 2004). FWS concluded that even in the "worst-case scenario," where EPA mandated consultation "causes lessees to forego drilling and operating two future production wells," it was extremely unlikely that crude oil supply would drop by more than the threshold 10,000 barrels per day. Accordingly, FWS found the critical habitat designation for *Yermo xanthocephalus* would not "significantly affect future energy production" (DOI, 2004).

FWS reached a similar conclusion in the critical habitat designation of the Arkansas River Basin population of the Arkansas River Shiner. FWS once again employed the 10,000 barrels per day test to determine that designation of the Arkansas River Shiner did not require preparation of a SEE because the designation would not significantly impact energy production (DOI, 2005).

Moreover, FWS emphasized that the costs of ESA compliance with designation decisions should factor into overall investment decisions of oil and gas developers deciding whether or not to drill in a proposed site. Costs of compliance should be balanced by oil and gas developers as a cost of doing business when drillers determine whether to select one site as opposed to selecting another site or deciding to forgo drilling altogether (and perhaps make a completely different investment) to avoid ESA compliance costs (DOI, 2005).

In the longitudinal analysis of FWS between 2002 and 2015, we found 364 instances where FWS conducted EO13211 mandated reviews. In all 364 instances, FWS found that EO13211 was applicable and a review of potential energy effects was needed. In all 364 instances, FWS did not draft a SEE because FWS determined that there would be no significant energy effect and the action, including those listing endangered species that may be found in areas to be drilled, did not constitute a significant effect on the supply, distribution or use of energy. In short, in no instance was EO 13211 used to preclude endangered species or other federal environmental conservation measure. The results of the longitudinal FWS study are set out in Table 3.

3.4. Cross Sectional Analysis of EPA, BLM, NPS, BIA, FWS, USCG, DOT & DOE: February 1, 2014 and February 11, 2015

After concluding the longitudinal analysis, we conducted a cross sectional study of the past year to see if, as environmental groups feared it might, EO 13211 was used by the present government in support of industry to increase shale oil and gas development at the expense of protecting the environment. In the cross sectional study, we found a significant number of instances where federal agencies charged with environmental protection and natural resource preservation conducted EO 13211 evaluation of potential adverse energy impacts in the past year. In total, we evaluated 575 current instances of federal environmental and natural resource regulations between February 1, 2014 and February 1, 2015. There were 398 actions by US EPA that included a review of EO13211. USCG had 124 instances in which regulatory review required consideration of EO13211. Collectively DOI had 50 instances during our study period and by the target divisions: FWS had 40, NPS had 6 and BIA had 4. COE had only 2 instances where is deemed inclusion of EO13211 analysis relevant. DOT did not conduct any EO13211 reviews.

In the cross sectional studies of federal agencies providing elements of environmental protection, we found almost no

Table 3
Sample of FWS rulemakings: 2002–2015.

Rulemakings referencing EO13211	Yes/No	Totals
1. Analysis required	Yes	364
	No	0
2. Statement of energy effects (SEE) is required	Yes	0
	No	364
3. Significant energy action	Yes	0
	No	364
4. Significant adverse effect on the supply, distribution, or use of energy	Yes	0
	No	364

Table 4
2014 Sample: US EPA, BLM, NPS, BIA, FWS, USCG, DOT, DOE.

E013211: Federal Action in 2014									
Code	Values	US EPA	BLM	NPS	BIA	FWS	USCG	DOT	COE
Analysis required	Yes	398	1	6	4	40	124	0	2
	No	0	0	0	0	0	0	0	0
Statement of energy effects is required	Yes	0	0	0	0	0	0	0	0
	No	396	1	6	4	40	124	0	2
Significant energy action	Yes	0	0	0	0	0	0	0	0
	No	396	1	6	4	40	124	0	2
Significant adverse effect on the supply, distribution, or use of energy	Yes	0	0	0	0	0	0	0	0
	No	396	1	6	4	40	124	0	2

instances in which a federal agency reported a significant energy impact within the meaning of EO 13211. In fact, of the 575 federal actions in the past year, we found only 2 instances at all in which any federal agency conducted a review pursuant to EO 13211 and determined that the action may have a significant energy effect. In the remaining 573 instances, the EPA, BLM, NPS, BIA, FW, USCG and COE all determined that no SEE was required pursuant to EO 13211 because the proposed or final rulemaking was not a significant energy action and would not have a significant adverse effect on the supply, distribution or use of energy. The results are described in Table 4.

The two instances where the agency conducted a review pursuant to EO 13211 were both actions by EPA in two entirely different types of regulation: one involved air and the second involved solid waste disposal. The two instances were EPA's proposed Clean Power Plan and a docket opened by EPA requesting public input on methods to reduce greenhouse gas emissions such as methane from existing municipal solid waste landfills. (EPA, 2014b,2014c) In both cases, EPA deemed the regulation a "significant energy action" that could have a "significant adverse effect on the supply, distribution, or use of energy." In both actions, EPA emphasized the potential for impact and not a certainty that the proposed environmental regulation would in fact cause an adverse energy impact.

When introducing the Clean Power Plan, EPA stated the proposal was a "significant regulatory action under EO 12866" that "is likely to have a significant effect on the supply, distribution, or use of energy" (EPA, 2014b). The proposed Clean Power Plan requires states to develop plans addressing greenhouse gas (GHG) emissions from existing power plants. EPA estimated in the first proposed plan that the rule regulating carbon emissions from power plants would result, on average, in a 4 to 7 percent increase in retail electricity prices across the contiguous United States in 2020 (EPA, 2014b). According to EPA estimates, the first proposed Clean Power Plan would also reduce coal-fired electricity generation by 16 to 22 percent and increase natural gas prices by approximately 8–12 percent in 2020. (EPA, 2014b)

The US EPA received 4,315,706 public comments on the proposed Clean Power Plan, only two of which addressed EO 13211. One such comment came from the state of Kentucky, which opposed the US EPA's authority to issue the Clean Power Plan (Peters, 2014). Kentucky criticized EPA's SEE for not considering the regional and local impacts of the proposed Clean Power Plan and urged the EPA to provide a more detailed SEE that considers alternatives to mitigate any likely adverse regional and local impacts of the proposed rule (Peters, 2014).

In soliciting data from the public on possible methods to reduce methane and other greenhouse gas emissions from existing municipal solid waste landfills, the EPA said future regulations may constitute a "'significant regulatory action' because the action raises novel legal or policy issues" (EPA, 2014c). Since the agency action was no more than a fact-finding mission, EPA promised to address EO 13211 and other mandated regulatory review measured when and if a formal regulatory municipal solid waste proposal followed.

4. Discussion

Although most discussion of Bush Energy Policy focuses on the Energy Policy Act of 2005, President George W. Bush issued EO 13211, entitled "Actions Concerning Regulations that Significantly Affect Energy Supply, Distribution or Use" on May 18, 2001 – four years before the EPAct was enacted. A first step in the Bush Administration's National Energy Policy (NEP), EO 13211 required all federal agencies to evaluate the effect of federal regulations on the "supply, distribution and use of energy." The Bush NEP was the brainchild of the National Energy Policy Development Group, a group of government executives led by Vice-President Dick Cheney that outlined a major role for public lands and resources in promoting domestic energy development (Stolte, 2006).

Bush's NEP directed federal agencies to prioritize and expedite approval of energy development projects. As such, in 2002 President Bush signed EO 13212 (EO 13212), requiring federal agencies to "accelerate the completion of energy-related projects" by expediting energy permit reviews and taking "other actions" deemed necessary for such projects (Bush, 2002). In 2003, the Bureau of Land Management (BLM) issued Instruction Memoranda 2003-233 and 2003-234, requiring BLM to expedite permit review and impose the "least restrictive constraints" on oil and gas development (Klopf et al., 2007). BLM has refined its regulatory guidelines for oil and gas development and operations on public lands recently under the Obama Administration with issuance of the now court challenged "final rule to support safe, responsible hydraulic fracturing activities on public and tribal lands." (BLM, 2015)

When promulgated, EO 13211 was labeled a pro-oil industry order with an environmentally friendly façade (Sanger, 2001). Early drafts of EO 13211 indicate the American Petroleum Institute, a leading US oil industry lobbyist, heavily commented on and participated in drafting the order that was ultimately signed by President Bush. These early drafts indicate the American Petroleum Institute very heavily influenced, if not authored EO 13211 (Sanger, 2001). From its inception, environmental groups feared EO 13211 would dissuade environmental and public health regulations in favor of oil and gas industry development. (Van Natta and Banerjee, 2002)

Despite early concerns, EO 13211's impact on both energy and environmental policy received minimal academic study or attention. (Forbis, 2014; Copeland, 2013; Shapiro, 2011; Johnson, 2008; Arbuckle, 2009; Klopf et al., 2007; Austin and Phoenix, 2005: Kalen, 2005) This study sought to determine whether the concern of environmental groups or the posturing by industry proved most founded. While we were particularly interested in reviewing the potential conflict between agency actions in proposed shale oil and gas extraction permit areas, we did not limit our review to actions involving unconventional oil and gas.

The results of both our longitudinal and cross sectional data were not subtle. Certain surprising patterns did, however, emerge. While President Bush promulgated EO 13211, energy reviews conducted pursuant to EO 13211 by federal agencies increased significantly in number during the Obama administration, perhaps

as a result of two factors: (1) the increase in shale oil and gas development using unconventional methods (Dundon et al., 2015; Blohm et al., 2012) and (2) President Obama's commitment to pursuit of "all of the above" energy strategy in an effort to promote increased energy independence (Furman and Stock, 2014). Increased federal review notwithstanding, in both the longitudinal and cross-sectional analyses, we determined that EO13211 had in fact had little impact on land use, environmental, natural resource or any other regulations. In most cases, the action agency drafted boilerplate language with little to no analysis sent to OIRA. Most discussions of energy impacts were less than a paragraph in length and many were limited to a single boilerplate sentence.

Although EO 13211 allows federal agencies significant discretion to determine whether or not an "adverse energy effect" does or does not exist and in turn whether a "significant energy action" does or does not arise, ultimately the determination must be grounded in fact (Carey, 2014). Our research found no case where EO 13211 thwarted environmental regulation before EPA, DOI, USCG or DOT. Since 2001, when President Bush signed EO 13211, federal agencies do appear to include EO 13211 in the list of systematic regulatory reviews mandated by administrative law and policy. In fact, from a strictly numerical standpoint, evaluation pursuant to EO 13211 continued, and indeed accelerated, under the Obama administration. EO 13211 was regularly, if not, routinely included in the litany of regulatory review in administrative actions across agencies. Hence, federal agencies did consider the energy impacts of proposed regulation but these energy considerations were almost never found to trump environmental, natural resource and other public health actions.

5. Conclusion and Policy Implications

This study evaluated whether federal agencies used EO 13211 to curtail or limit environmental protection, natural resource conservation or other public health efforts as reflected in final and proposed federal regulatory action published in the federal register by collecting publicly available proposed and final rulemaking from Lexis/Nexis and Regulation.gov's regulatory dockets. We found no evidence that federal agencies invoked EO 13211 to prevent critical habitat designation in areas targeted for oil and gas development or any other forms of environmental and public health protection. Both the cross sectional and longitudinal reviews clearly demonstrated that EO 13211 had nearly no effect on environmental protection and natural resource conservation actions taken by federal agencies during rule making proceedings.

Almost no federal actions found potential energy effects necessitating even a SEE. Most federal agencies' rules, both proposed and final, that evaluated energy impacts pursuant to EO 13211 applied the $100 million test of EO 12866 and, hence, found no"-significant energy action." Accordingly, most federal actions did not proceed to OMB review or energy effects (although other economic effects were considered in detail by OMB). As a result, if EO 13211 has had any effect on public health, environmental or natural resource actions by federal agencies then those impacts are not measurable in public documents published by the federal government. The impacts may very well be considered in the pre-rule making stage, but the extent of pre-ruling consideration of energy impacts is beyond the cope of this study.

There were rare instances where a federal agency determined a detailed review pursuant to EO 13211 was needed. EPA's analysis of the applicability of EO 13211' to the Clean Power Plan and Methane Gas reduction in municipal solid waste landfills reveals a genuine attempt by EPA to balance and reconcile potential energy impact with environmental concerns such as reduction of instances of asthma and curtailing manmade contributions to climate change. (EPA, 2014a, 2014b)

Our review of EO 13211 reveals that neither the concerns of environmental groups nor the applause of the energy industry are founded. While EO 13211 has brought energy effects into federal agency thought process, there is no evidence that EO 13211 has impacted federal decision-making in any meaningful manner.

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Human Participant Protection

No protocol was needed for this research because the study was a regulatory review with no human participants.

Conflicts of interest

None.

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