

# CHAPTERS

## SUCTION DREDGE MINING: THE UNITED STATES FOREST SERVICE HANDS MINERS THE GOLDEN TICKET

BY  
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*Recreational suction dredge mining is a popular method of gold mining in the Pacific Northwest. In exercising a “right to mine” under the Mining Law of 1872, miners run dredges in waterways of the Rogue River-Siskiyou National Forest, disrupting essential salmon and steelhead spawning grounds and releasing dormant mercury into the water. This Chapter begins with an examination of the environmental impacts of past and present gold mining methods. Next, the Chapter compares a recent California moratorium on suction dredge mining with the broad discretion exercised by the United States Forest Service (USFS) in regards to mining in national forests. The section concludes that neither the statutes nor the Ninth Circuit, when given the opportunity in Siskiyou Regional Education Project v. U.S. Forest Service, impose adequate limitations upon USFS, an agency that takes a hands-off approach to mining. The Chapter then examines USFS’s duties under the Mining Law of 1872, arguing that the Law conveyed only a limited “right” to miners, which USFS and Department of the Interior can lawfully restrict. Finally, the Chapter presents possible relief from suction dredging in the Siskiyou in the form of a proposed amendment to the outdated Mining Law of 1872, extended wilderness*

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*designation for the area, and a congressional mineral withdrawal within the forest.*

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#### I. INTRODUCTION

“For a short time we lived quietly.  
But this could not last.  
White men had found gold in the mountains around  
the land of winding water.”<sup>1</sup>

“For in the true nature of things,  
if we rightly consider,  
every green tree is far more glorious  
than if it were made of gold and silver.”<sup>2</sup>

The story of the Rogue River-Siskiyou National Forest (Siskiyou National Forest) begins in the golden hills of California and trickles into the

<sup>1</sup> Young Joseph, *An Indian's Views of Indian Affairs*, 128 N. AM. REV. 412, 419 (1879).

<sup>2</sup> Martin Luther, Christmas Eve Sermon (Dec. 24, 1538), in ROLAND BAINTON, *HERE I STAND: A LIFE OF MARTIN LUTHER* 221 (1950) (quoted with slightly different wording); Martin Luther, Christmas Eve Sermon (Dec. 24, 1538), in ALAN SONFIST, ET AL., *NATURE, THE END OF ART: ENVIRONMENTAL LANDSCAPES* 279 (2004) (providing the exact translation quoted above).

lush Oregon forest.<sup>3</sup> Gold lured the masses to California in 1849<sup>4</sup> and into Oregon by the 1850s;<sup>5</sup> in their quest for wealth these miners wreaked environmental havoc within western waters.<sup>6</sup> Today, gold lures the suction dredges<sup>7</sup> into Oregon and California, culminating in the Siskiyou National Forest.<sup>8</sup> Though the United States Forest Service (USFS or Forest Service) freely allows these miners to run their dredges, the miners also face activists and local governments that oppose suction dredging for its harmful environmental impact.<sup>9</sup>

The great environmental havoc modern suction dredging causes in aquatic ecosystems actually began in 1849 with the Gold Rush. Gold Rush miners left behind mercury-laden waters that remain today.<sup>10</sup> This toxic legacy follows modern miners deep into the California and Oregon forests, where their vacuum powered diesel dredges stir up mercury-laden waters and disrupt valuable salmon habitat.<sup>11</sup>

Recently, the battle against suction dredge mining came to a temporary halt on California state lands when Governor Schwarzenegger signed into law a temporary moratorium banning suction dredge mining.<sup>12</sup> Although this temporarily halted suction dredge mining in California, the battle rages on inside the Siskiyou National Forest and particularly in Oregon, where miners envision a golden opportunity to stake new mining claims.<sup>13</sup> So far, attempts

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<sup>3</sup> The previously separate Rogue River and Siskiyou National Forests and their nine ranger district offices were administratively combined in 2004. U.S. Forest Serv., Rogue River-Siskiyou National Forest, <http://www.fs.fed.us/r6/rogue-siskiyou/> (last visited July 11, 2010). President Theodore Roosevelt established the Rogue River National Forest in 1908. *Id.* The Siskiyou Forest Reserve was established by President Roosevelt in 1905, and the Reserve was designated as the Siskiyou National Forest in 1907. *Id.* Today, the Rogue River-Siskiyou National Forest covers nearly 1.8 million acres in southwestern Oregon and northern California. *Id.*

<sup>4</sup> See RODMAN W. PAUL, CALIFORNIA GOLD, THE BEGINNING OF MINING IN THE FAR WEST 23–24 (1947) (describing that the “stampede of 1849” caused the population of California to increase from 14,000 in 1848 to just short of 100,000 persons at the end of 1849).

<sup>5</sup> MILES F. POTTER, OREGON’S GOLDEN YEARS: BONANZA OF THE WEST ix (1978).

<sup>6</sup> See *infra* Part II.A.

<sup>7</sup> Suction dredge mining is a mining method used to extract gold from river and stream sediments. Miners use a suction dredge, a flotation device with a vacuum powered hose to suck up the riverbed in hopes of finding gold. JAMES K. AGEE, STEWARDS FORK: A SUSTAINABLE FUTURE FOR THE KLAMATH MOUNTAINS 135 (2007).

<sup>8</sup> See Steve Marsden, *Interior Stalls on Protecting Siskiyou Wild Rivers*, VOICE OF THE WILD SISKIYOU NEWSLETTER, Fall 2001, at 1, 11, available at [http://www.siskiyou.org/news/newsletter\\_archives/fall01.pdf](http://www.siskiyou.org/news/newsletter_archives/fall01.pdf).

<sup>9</sup> See Posting of Scott Learn to [blog.oregonian.com](http://blog.oregonian.com), [http://blog.oregonlive.com/environment\\_impact/print.html?entry=/2009/11/wyden\\_merkley\\_defazio\\_want\\_min.html](http://blog.oregonlive.com/environment_impact/print.html?entry=/2009/11/wyden_merkley_defazio_want_min.html) (last visited Jul. 10, 2010).

<sup>10</sup> THE SIERRA FUND, MINING’S TOXIC LEGACY: AN INITIATIVE TO ADDRESS MINING TOXINS IN THE SIERRA NEVADA 16–17 (2008), available at <http://www.sierrafund.org/images/content/campaigns/pdf/Miningstoxiclegacy.pdf>.

<sup>11</sup> *Id.* at 22, 25.

<sup>12</sup> See S.B. 670, 2009 Gen. Assem., Reg. Sess. (Cal. 2009), available at [http://www.leginfo.ca.gov/pub/09-10/bill/sen/sb\\_0651-0700/sb\\_670\\_bill\\_20090806\\_chaptered.pdf](http://www.leginfo.ca.gov/pub/09-10/bill/sen/sb_0651-0700/sb_670_bill_20090806_chaptered.pdf).

<sup>13</sup> See New 49’ers Club, Gold Prospecting, [http://www.goldgold.com/rogue\\_dredging.htm](http://www.goldgold.com/rogue_dredging.htm) (last visited July 11, 2010) (seeking new mining opportunities in Oregon after the California moratorium).

to reduce suction dredge mining in the Siskiyou proved futile. In 2009, the Ninth Circuit, in *Siskiyou Regional Education Project v. United States Forest Service*,<sup>14</sup> declined to force USFS to require a plan of operation for recreational suction dredgers mining within the national forest.<sup>15</sup>

This Chapter explores the suction dredging debate, concluding that USFS exercises too much discretion in allowing suction dredge mining inside the Siskiyou National Forest. Part I examines the background of the recreational suction dredge mining debate: the Gold Rush as it relates to mining today; modern suction dredge mining practices; and the ecological harm that miners cause to riparian reserves and the aquatic ecosystem. Part II explores gold mining regulation in the Pacific Northwest, comparing California's temporary mining ban with USFS's hands-off approach, which is supported by statute and recent court cases. Part III argues that if it desired, USFS could ban suction dredges in national forests, since suction dredgers' "right to mine" under the General Mining Law of 1872 (Mining Law)<sup>16</sup> is laden with limitations. Part IV contemplates the future of suction dredge mining in the Siskiyou and examines proposals to update mining laws and designate new wilderness areas; if implemented, such actions would restrict USFS's broad approval of suction dredge mining within the Siskiyou.

## II. GOLD MINING

Modern suction dredge miners follow the same golden dream as their predecessors. Though suction dredge mining is not as outwardly harmful as mining techniques of the 19th Century Gold Rush, just below the surface of western waters, suction dredges stir up toxic sediments and disrupt fish habitat, causing great ecological harm.

### A. *The Dark Shadow of the Gold Rush*

The modern West burst into existence in 1848 with the discovery of gold on the American River in California.<sup>17</sup> The first miners to arrive, known as the 49'ers, discovered massive deposits, offering them the chance to strike it rich by simply panning for gold.<sup>18</sup> Unfortunately early miners adopted harmful practices such as adding mercury to sluice boxes to amalgamate finer gold particles.<sup>19</sup> As easy placer gold became sparse, miners

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<sup>14</sup> 565 F.3d 545 (9th Cir. 2009).

<sup>15</sup> *Id.* at 554 (holding that USFS's interpretation of a directive requiring only a notice of intent, and not a plan of operation for suction dredge mining activities, was permissible).

<sup>16</sup> 30 U.S.C. §§ 22–24, 26–30, 33–35, 37, 39–43, 47 (2006).

<sup>17</sup> JAMES J. RAWLS, *A Golden State: An Introduction*, in *A GOLDEN STATE* 1, 1 (James J. Rawls & Richard J. Orsi eds. 1999).

<sup>18</sup> RONALD H. LIMBAUGH, *Making Old Tools Work Better: Pragmatic Adaptation and Innovation in Gold-Rush Technology*, in *A GOLDEN STATE*, *supra* note 16, at 24, 28.

<sup>19</sup> The "sluice box" separated heavier eroded gold from lighter sands and gravels with the aid of mercury, or "quicksilver." RONALD H. LIMBAUGH & WILLARD P. FULLER, JR., *CALAVERAS GOLD: THE IMPACT OF MINING ON A MOTHER LODE COUNTY* 27 (2004). Due to the rush of '49 and the rapid depletion of easily collected surface gold deposits, quicksilver use expanded. *Id.* Mercury

adopted even more destructive practices, including hydraulic mining and hard rock mining, to get at gold deeply embedded within the earth.<sup>20</sup> Inevitably each individual miner left a mercury footprint in the California waters that they mined.<sup>21</sup>

Gold miners knew little of mercury's danger; they did not understand the long-term effects on humans and the environment.<sup>22</sup> Because of its cost, miners tried to recover and reuse the mercury<sup>23</sup> but inevitably, millions of pounds were lost to the environment from placer and hardrock mining.<sup>24</sup> Mercury remains in western waters today and is effortlessly "panned out of gravel or sucked from creek and riverbeds with a turkey baster."<sup>25</sup> Mercury, after conversion by microbial action into methylmercury, easily incorporates into the tissues of microbes, plants, and animals, eventually crossing the blood-brain barrier in living organisms and becoming deadly.<sup>26</sup>

When miners flooded into California in 1849 they brought a "get rich quick" attitude, with no concern for the law or the environment.<sup>27</sup> Existing laws offered little environmental protection;<sup>28</sup> the Federal government's promotion of mining—reflected by the Mining Law—incentivized miners to head west and strip western waters for gold. Miners risked their lives to reach the golden promise, and "anything that stood in the way . . . was pushed aside or destroyed."<sup>29</sup> The same golden dream drives today's suction dredge miners into the Siskiyou National Forest, an area still suffering from a lack of legal protections.

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use increased recovery of gold within the riffle box, though a significant amount of both gold and mercury washed away in the tailings. *Id.* Miners "cleaned up" by shutting off the water supply, removing the riffles, and scraping the amalgam into a buckskin bag, and squeezing out the excess quicksilver. *Id.* Finally, miners heated the remainder and boiled off the quicksilver, leaving a gold sponge that was melted into bars. *Id.*

<sup>20</sup> LIMBAUGH, *supra* note 17, at 32–33; *see also* THE SIERRA FUND, *supra* note 10, at 14–16.

<sup>21</sup> *See, e.g.*, THE SIERRA FUND, *supra* note 10, at 16 (describing how mercury was used in every major type of mining resulting in an estimated 26 million pounds of mercury being used to extract gold in California).

<sup>22</sup> LIMBAUGH & FULLER, *supra* note 18, at 27.

<sup>23</sup> *See id.* at 36–37.

<sup>24</sup> THE SIERRA FUND, *supra* note 10, at 16.

<sup>25</sup> *Id.* at 17.

<sup>26</sup> *Id.* at 18, 34–35.

<sup>27</sup> RAYMOND F. DASMANN, *Environmental Changes Before and After the Gold Rush*, in A GOLDEN STATE, *supra* note 16, at 105, 105.

<sup>28</sup> After thirty years of harmful hydraulic mining, which flooded lands downstream from the mines, the affected agricultural industry finally prevailed when the United States Circuit Court in San Francisco granted a perpetual injunction against hydraulic mining in 1884, in what was known as the "Sawyer Decision." *Id.* at 119–20; *see also* DONALD J. PISANI, "I Am Resolved Not to Interfere But Permit All to Work Freely": *The Gold Rush and American Resource Law*, in A GOLDEN STATE, *supra* note 16, at 123, 132. However, neither the courts nor the legislature took action to ban hardrock mining, instead, they allowed mining activities which permanently scarred California's landscape. *See* PISANI, *supra*, at 133.

<sup>29</sup> DASMANN, *supra* note 26, at 105.

*B. Suction Dredge: The Modern Golden Goose*

Much like their predecessors, the New 49'ers<sup>30</sup> and similar groups of recreational miners flood western streams and rivers with dreams of striking it rich, refusing to acknowledge the environmental havoc they inflict.<sup>31</sup> Suction dredge mining is not as apparently destructive as hydraulic and hardrock mining, however it substantially impacts sensitive aquatic ecosystems by creating unstable riverbeds for endangered salmon and steelhead egg incubation<sup>32</sup> and disrupting dormant mercury piles that are deadly to human and aquatic life.<sup>33</sup> Throughout the Northwest, these destructive recreational miners enter as guests of the federal government, operating within precious national forests.<sup>34</sup>

*1. Commandeering the Suction Dredge*

Today recreational miners either pan for gold or use a modern suction dredge, while industrial gold miners use either large suction dredge machines or a form of hard rock mining.<sup>35</sup> Recreational miners such as the New 49'ers do not engage in hardrock mining as miners did during the Gold Rush.<sup>36</sup> Instead these weekenders search for placer gold that resides along the bottom of river and streambeds.<sup>37</sup> To reach such placer gold, miners must delve into the sediment that makes up the stream and riverbed, sifting out the golden grains.<sup>38</sup>

Miners use an engine-powered hose to remove streambed materials, such as rocks, sand, gravel, silt, gold, and other materials, including any biological materials that may reside on the bed.<sup>39</sup> The materials pass through

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<sup>30</sup> See New 49'ers Club, The New 49'ers, <http://www.goldgold.com/> (last visited at July 11, 2010) (providing information on the New 49'ers, a gold prospecting club headquartered in Happy Camp, California).

<sup>31</sup> See E-mail from Joe Greene, Retired EPA scientist and suction dredge miner, to California State Water Resource Control Board (June 6, 2007), available at [http://www.goldgold.com/legal/EIR\\_Comments\\_Joe\\_Greene.pdf](http://www.goldgold.com/legal/EIR_Comments_Joe_Greene.pdf).

<sup>32</sup> See generally Bret C. Harvey & Thomas E. Lisle, *Effects of Suction Dredging on Streams: A Review and an Evaluation Strategy*, 23 FISHERIES HABITAT 8 (1998), available at [http://karuk.us/press/mining\\_pdfs/HarveyLisle%20Suction%20Dredging%20effects.pdf](http://karuk.us/press/mining_pdfs/HarveyLisle%20Suction%20Dredging%20effects.pdf).

<sup>33</sup> THE SIERRA FUND, *supra* note 10, at 22.

<sup>34</sup> See U.S. FOREST SERV., MINING IN NATIONAL FORESTS (1975), available at [http://www.fs.fed.us/geology/For%20Web%20posting%20on%20Locatables%20page/1975\\_mining%20in%20national%20forests%20for%20web.pdf](http://www.fs.fed.us/geology/For%20Web%20posting%20on%20Locatables%20page/1975_mining%20in%20national%20forests%20for%20web.pdf).

<sup>35</sup> THE SIERRA FUND, *supra* note 10, at 21–22.

<sup>36</sup> See The New 49'ers, *supra* note 29.

<sup>37</sup> See LIMBAUGH & FULLER, *supra* note 18, at 21 (describing a gold placer as “essentially a river-or streambed of sand, gravel, and silt that contains particles of native gold”).

<sup>38</sup> Gold has a high density, approximately 16 to 19 times heavier than water and five to six times heavier than the material in the stream gravels. *Id.* Due to their density, coarser gold nuggets reside at the bottom of the channel, sometimes resting on top of bedrock. *Id.* Finer grains, called “flour gold” or “gold dust,” distribute in the stream gravel forming concentrated piles in the lower section of the bed. *Id.* Though much of the West’s gold resides inside rock, disintegration and bedrock erosion release gold from quartz veins into the water. *Id.* at 21–22.

<sup>39</sup> AGEE, *supra* note 7, at 135; see also Harvey & Lisle, *supra* note 32, at 9 (discussing adverse effects on fish eggs upon passage through a suction dredge).

the suction hose, which varies from two to ten inches in diameter, and then through a sluice box.<sup>40</sup> Miners separate and trap the dense gold from other streambed materials, dumping gravel, sediments, and biological materials back into the stream.<sup>41</sup> Dredging normally occurs in ten feet of water or less, but larger size dredges often have hookah-air systems, allowing divers to reach the beds of deeper rivers.<sup>42</sup> Miners suck up the streambed “as quickly as the operator is able to feed it into the suction nozzle,” suggesting that the miners do not discriminately select what materials are sucked up the hose.<sup>43</sup> As the miners dredge, they move large boulders and rocks out of the way, further disrupting the streambed.<sup>44</sup>

## 2. Environmental Havoc

Suction dredge mining causes harm to the aquatic ecosystem by stirring up mercury, depositing sediment, and creating unstable habitat conditions for aquatic species.<sup>45</sup> Modern suction dredge mining does not require mercury but cannot avoid disrupting and redistributing the mercury deposits of its predecessors.<sup>46</sup> By disrupting mercury pockets lying dormant in western waters, suction dredge mining reallocates the mercury into the water, exposing aquatic life and eventually humans to the toxin.<sup>47</sup> Even in a controlled study, in which scientists specifically used a suction dredge to collect mercury by targeting mercury hotspots, two percent of mercury that the scientists intended to collect accidentally escaped and re-deposited into the water.<sup>48</sup> Once no longer dormant, the mercury was “easily transported away by the river”; the escaped mercury concentrations were “more than ten times higher than needed to classify it as a hazardous waste.”<sup>49</sup>

Mercury disrupted by suction dredges poisons aquatic and human life. The United States Environmental Protection Agency confirmed that the “primary route by which the U.S. population is exposed to methylmercury is through the consumption of fish.”<sup>50</sup> When miners release dormant mercury

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<sup>40</sup> Pro-Mack Mining, Underwater Mining Specialists, [www.promackmining.com/suctiondredgingforgold.htm](http://www.promackmining.com/suctiondredgingforgold.htm) (last visited July 11, 2010); *see also* Harvey & Lisle, *supra* note 32, at 8.

<sup>41</sup> Harvey & Lisle, *supra* note 32, at 8.

<sup>42</sup> CAL. DEP’T OF FISH AND GAME, SUCTION DREDGE PERMITTING PROGRAM, LITERATURE REVIEW 2–10 (2009) (on file with the California Department of Fish and Game).

<sup>43</sup> Dave McCracken, Suction Dredging for Gold, <http://www.goldgold.com/suctiondredging.htm> (last visited July 11, 2010).

<sup>44</sup> CAL. DEP’T OF FISH AND GAME, *supra* note 41, at 4.1–6.

<sup>45</sup> THE SIERRA FUND, *supra* note 10, at 47.

<sup>46</sup> *See* CAL. WATER BOARDS, MERCURY LOSSES AND RECOVERY DURING A SUCTION DREDGE TEST IN THE SOUTH FORK OF THE AMERICAN RIVER 4 (2005) (explaining that nearly half of the 6.6 thousand tons of mercury used during the Gold Rush was lost in the rivers and streams by miners); *see also* THE SIERRA FUND, *supra* note 10, at 22–23.

<sup>47</sup> *See* THE SIERRA FUND, *supra* note 10, at 22, 35.

<sup>48</sup> *See* CAL. WATER BOARDS, *supra* note 45, at 7.

<sup>49</sup> *Id.*; THE SIERRA FUND, *supra* note 10, at 47.

<sup>50</sup> *See* U.S. EPA, GUIDANCE FOR IMPLEMENTING THE JANUARY 2001 METHYLMERCURY WATER QUALITY CRITERION 10 (2009), *available at* <http://www.epa.gov/waterscience/criteria/methylmercury/pdf/guidance-final.pdf>.

into fish filled waters, humans become vulnerable to the toxin.<sup>51</sup> Mercury damages the brain, nerves, and immune system, and causes birth defects and mental retardation in children.<sup>52</sup> Although suction dredge miners do not introduce new mercury into the environment, by disrupting dormant mercury they create a potential health hazard.<sup>53</sup>

Suction dredging poses further risk to aquatic ecosystems by filtering and re-depositing gravel piles possibly containing fish nests, or “redds.”<sup>54</sup> For Northwest salmon and steelhead, which incubate in stream bottom gravel nests, the powerful suction dredge poses a menacing threat.<sup>55</sup> Suction dredgers target gold in the streambed where fish redds reside; the fish larvae inevitably travel through the suction dredge.<sup>56</sup> Fish eggs, larvae, and fry removed from the streambed by the suction dredge rarely survive, and even if they live, will “suffer high mortality” once redeposited.<sup>57</sup>

Suction dredging further damages the streambed and banks, and creates unstable spawning grounds for fish.<sup>58</sup> When dredging excavates the stream banks, greater erosion and disruption to vegetation occur, filling in the stream or riverbeds.<sup>59</sup> Furthermore, the deposits from excavations, or “tailings,” create attractive, but dangerous spawning habitat for fish.<sup>60</sup> Dredge tailings attract salmonids “as sites for redd (nest) construction.”<sup>61</sup> However, such tailings may “reduce embryo survival because they tend to be less stable than natural spawning gravels. Embryos in tailings may suffer high mortality rates.”<sup>62</sup> Suction dredge miners contribute to stream and river pollution and to declining salmon populations in the rivers they mine.<sup>63</sup>

Miners deny that suction dredge mining causes negative environmental impacts. The miners rely on inconclusive scientific data as the basis for this

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<sup>51</sup> See CHARLES N. ALPERS & MICHAEL P. HUNERLACH, *MERCURY CONTAMINATION FROM HISTORIC GOLD MINING IN CALIFORNIA* (2000); THE SIERRA FUND, *supra* note 10, at 47.

<sup>52</sup> THE SIERRA FUND, *supra* note 10, at 35.

<sup>53</sup> *Id.* at 22.

<sup>54</sup> See Harvey & Lisle, *supra* note 32, at 11; see also Steve Marsden, *Interior Stalls on Protecting Siskiyou Wild Rivers*, VOICE OF THE WILD SISKIYOU (Siskiyou Reg'l Educ. Project, Cave Junction, Or.) Fall 2001, at 1, 11, available at [http://www.siskiyou.org/news/newsletter\\_archives/fall01.pdf](http://www.siskiyou.org/news/newsletter_archives/fall01.pdf).

<sup>55</sup> Marsden, *supra* note 53, at 11.

<sup>56</sup> Harvey & Lisle, *supra* note 32, at 8, 9. Although “state regulations generally limit dredging to summer months,” it can still “overlap with fish spawning and incubation of embryos.” *Id.* at 8. In some streams salmonids do not emerge until summer and “many nonsalmonids have protracted spawning periods extending into summer.” *Id.* at 8–9.

<sup>57</sup> *Id.* at 9.

<sup>58</sup> *Id.* at 9–11.

<sup>59</sup> *Id.* at 9.

<sup>60</sup> *Id.* at 11.

<sup>61</sup> *Id.*

<sup>62</sup> *Id.*

<sup>63</sup> See *id.* Salmon runs are so depleted in the Pacific Northwest that the government banned commercial salmon fishing off the California and Oregon coasts in 2008 and 2009, and “thousands whose livelihoods depended on fishing have lost their jobs.” Editorial, *A Pause, at Least, for Suction Mining*, SACRAMENTO BEE, Aug. 11, 2009, at A14, <http://www.sacbee.com/2009/08/11/2098394/editorial-a-pause-at-least-for.html> (last visited July 11, 2010).

argument.<sup>64</sup> An observational field study found that the adverse effects of suction dredge mining were undetectable at the level tested.<sup>65</sup> However, the study acknowledged the inaccuracies of the data.<sup>66</sup> It “did not indicate that suction dredge mining has no effect” because the study was unable to test the “strong cumulative intensity” of multiple suction dredge operations within the forest.<sup>67</sup> By failing to study the cumulative effects of multiple suction dredges in one area over time, the study failed to analyze the actual effects of suction dredging.<sup>68</sup> Many miners often dredge the same area simultaneously on an existing claim, and suction dredge miners may return to the same spot repeatedly.<sup>69</sup> Furthermore, the study failed to address the aquatic and human health effects of mercury pulled up by suction dredgers.<sup>70</sup>

Inside national forests, miners adversely affect the extended riparian zones in which they mine. Riparian reserves, as defined by USFS and the Bureau of Land Management (BLM), are portions of watershed where water-dependent resources receive primary emphasis and special standards and guidelines apply in the NWP.<sup>71</sup> Riparian reserve designations are intended to prohibit and regulate activities that prevent attainment of Aquatic Conservation Strategy objectives under USFS and BLM, which include protecting the quality of fish bearing streams in the NWP.<sup>72</sup>

Activities closely associated with dredging, such as camping and fishing within the riparian zone, negatively affect habitat for birds, amphibians, fish, and aquatic insects.<sup>73</sup> Within the Siskiyou National Forest in particular, miners take advantage of the “camp anywhere” policy inviting miners to set

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<sup>64</sup> See Email from Joe Greene, *supra* note 31. Greene erroneously relies on the Oregon State University study, stating that “Dr. Bayley’s study and other works confirm that even when analyzed from a cumulative effects perspective, there is no reason to believe that suction dredge mining is deleterious to fish.” *Id.* Bayley’s study did not actually test the cumulative effects of suction dredge mining due to the constraints of the experiment. PETER B. BAYLEY, RESPONSE OF FISH TO CUMULATIVE EFFECTS OF SUCTION DREDGE AND HYDRAULIC MINING IN THE ILLINOIS SUBBASIN, SISKIYOU NATIONAL FOREST, OREGON 14–15 (2003), available at <http://www.fs.fed.us/r6/fishing/forests/rogriovis/gofishing/suctiondredgingfinal.pdf>.

<sup>65</sup> BAYLEY, *supra* note 63, at 14–15.

<sup>66</sup> *Id.* at 14.

<sup>67</sup> *Id.* at 14–15.

<sup>68</sup> See Harvey & Lisle, *supra* note 32, at 6–7, 14 (“[D]ownstream impacts may be of concern where dredges are closely spaced, and other human activities and natural conditions increase the potential for cumulative effects.”); see also CAL. DEP’T OF FISH AND GAME, *supra* note 41, at 4.1-11 (concluding that a “key information gap exists” regarding the role of multiple rigs operating along single reaches or rivers, and the nature of additive or cumulative impacts from such multiple rigs).

<sup>69</sup> CAL. DEP’T OF FISH AND GAME, *supra* note 41, at 2-13 to 2-15. Mining groups, such as the New 49’ers have mining claims and mining properties for their members to use. *Id.*

<sup>70</sup> See Bayley, *supra* note 63.

<sup>71</sup> U.S. DEP’T OF AGRIC. & U.S. DEP’T OF THE INTERIOR, STANDARDS AND GUIDELINES FOR MANAGEMENT OF HABITAT FOR LATE-SUCCESSIONAL AND OLD-GROWTH FOREST RELATED SPECIES WITHIN THE RANGE OF THE NORTHERN SPOTTED OWL B-12 (1994) [hereinafter STANDARDS AND GUIDELINES], available at <http://www.reo.gov/library/reports/newsandga.pdf>.

<sup>72</sup> *Id.* Standards and Guidelines within the NWP prohibit programmed timber harvest, and manage roads, grazing, mining, and recreation to achieve Aquatic Conservation Strategy objectives. See *id.* at C-30.

<sup>73</sup> See Harvey & Lisle, *supra* note 32, at 14.

up camp outside of developed campgrounds and without a separate permit.<sup>74</sup> USFS leaves sanitation, clean-up, and waste disposal to the miners, leaving the forest vulnerable to pollution.<sup>75</sup> Suction dredge mining pollutes the waters of the Siskiyou, damages designated riparian reserves, and directly harms spawning fish habitat. Such destruction is adverse to the purpose of riparian reserves and conflicts with Aquatic Conservation Strategy objective of protecting fish bearing streams. USFS must halt this destructive hobby inside our national forests.

### III. FIGHT AGAINST SUCTION DREDGING ON STATE AND FEDERAL LANDS

While much of the suction dredge mining occurs on state lands under state permits, many miners also strip federal lands, running suction dredges within the waters of national forest lands. The impact on state waters is just as great as the federal impact; however this article focuses specifically on mining within the Siskiyou National Forest, where USFS practices a hands-off approach towards recreational suction dredge miners.

Mining regulation on federal lands is a complex web of overlapping statutes, split agency controls, forest plans, and subsequent regulations. Mining takes place within federal forests controlled by both BLM<sup>76</sup> and USFS.<sup>77</sup> BLM maintains jurisdiction over all mining claims and patents, while the appropriate land management agency supervises operations within its assigned lands.<sup>78</sup> The Siskiyou National Forest in particular falls within USFS

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<sup>74</sup> See New 49'ers Club, Gold Prospecting with the New 49'ers Club – Camping & Sanitation, <http://www.goldgold.com/camping.htm> (last visited July 11, 2010) (advertising that USFS within the Siskiyou National Forest allows anyone to camp in any unrestricted areas for 14 days without obtaining a permit or even notifying USFS).

<sup>75</sup> See Gold Prospecting with the New 49'ers Club – Sanitation, <http://www.goldgold.com/sanitation.html> (last visited April 20, 2010); see also Harvey & Lisle, *supra* note 32, at 14.

<sup>76</sup> BLM operates under the Federal Lands Policy Management Act (FLPMA), 43 U.S.C. §§ 1701–1785 (2006). For information on the BLM's grant of suction dredge permits, mineral claims, and patents see generally BUREAU OF LAND MGMT., MINING CLAIMS AND SITES ON FEDERAL LANDS, *available at* [http://s3.amazonaws.com/propublica/assets/colorado\\_river/blm\\_pamphlet\\_mining\\_claims.pdf](http://s3.amazonaws.com/propublica/assets/colorado_river/blm_pamphlet_mining_claims.pdf).

<sup>77</sup> USFS manages lands under the National Forest Management Act (NFMA), 16 U.S.C. §§ 1600–1687 (2006). The Supreme Court recognized that “under the National Forest Management Act . . . the Forest Service under the Secretary of Agriculture is responsible for the management of the surface impacts of mining on federal forest lands.” *Cal. Coastal Comm'n v. Granite Rock Co.*, 480 U.S. 572, 585 (1987). USFS “has the authority to regulate mining operations in the national forest by requiring miners to submit for approval operating plans for their proposed operations.” *Siskiyou Education Project v. Rose*, 87 F. Supp. 2d 1074, 1086 (D. Or. 1999).

<sup>78</sup> GEORGE CAMERON COGGINS ET AL., *FEDERAL PUBLIC LAND AND RESOURCE LAW 601* (2007) (“Authority for administering the Mining Law has always been lodged in the Interior Department . . . even on lands managed by other federal agencies, such as the national forests. When Congress transferred most management authority over the national forests to the Secretary of Agriculture in 1905, it left [Interior] with some authority over mineral activity, although the boundaries between [the departments] were never sharply drawn.”).

jurisdiction.<sup>79</sup> All resource management decisions in national forests must comply with the National Forest Management Act (NFMA),<sup>80</sup> which requires USFS to manage for sustainable yield and multiple uses within the forest.<sup>81</sup>

USFS allows mining in compliance with the Mining Law and the Forest Service Organic Administration Act of 1897 (Organic Act).<sup>82</sup> USFS must also comply with the Endangered Species Act (ESA)<sup>83</sup> and the Clean Water Act (CWA).<sup>84</sup> Within Northern Spotted Owl territory, USFS is ruled by the standards and guidelines of the Northwest Forest Plan (NFP).<sup>85</sup> Finally, USFS is bound to follow its own regulations, although, as seen in *Siskiyou Regional Education Project v. United States Forest Service*,<sup>86</sup> the court grants USFS broad discretion to change its regulations and directives, as long as such changes pass the arbitrary and capricious standard.<sup>87</sup>

#### A. California's Moratorium

In 2009, California successfully signed into law a temporary moratorium on all statewide suction dredge mining. The moratorium deserves a brief discussion,<sup>88</sup> as its juxtaposition to the Forest Service's activities on federal lands creates a striking contrast. The ban offers protection to California's waters, simultaneously creating a backlash of miners infiltrating Oregon, particularly the Rogue River-Siskiyou National Forest.<sup>89</sup>

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<sup>79</sup> See Forest Service Organic Administration Act of 1897 (Organic Act), 16 U.S.C. § 551 (2006) (granting USFS authority to make rules and regulations upon public and national forests, in order to preserve forest occupancy and use).

<sup>80</sup> In developing, maintaining, and revising plans for the National Forest System the Secretary of Agriculture must "provide for multiple use and sustained yield of the products and services obtained therefrom" and, in particular, "include coordination of outdoor recreation, range, timber, watershed, wildlife and fish, and wilderness." 16 U.S.C. § 1604.

<sup>81</sup> *Id.*

<sup>82</sup> Organic Act of June 4, 1897, Ch. 2, 30 Stat. 11, 34-36 (codified as amended at 16 U.S.C. §§ 473-482, 551 (2006)).

<sup>83</sup> Endangered Species Act of 1973, 16 U.S.C. §§ 1531-1544 (2006). The applicable sections of the Endangered Species Act are found at 16 U.S.C. §§ 1531(c), 1536(a), and 1536(c).

<sup>84</sup> Federal Water Pollution Control Act, 33 U.S.C. §§ 1251-1387 (2006). The applicable section of the Federal Water Pollution Control Act is found at 33 U.S.C. § 1251(g).

<sup>85</sup> See SEC'Y OF AGRIC. & SEC'Y OF INTERIOR, RECORD OF DECISIONS FOR AMENDMENTS TO FOREST SERVICE AND BUREAU OF LAND MANAGEMENT PLANNING DOCUMENTS WITHIN THE RANGE OF THE NORTHERN SPOTTED OWL 4 (April 13, 1994) [hereinafter NFP RECORD OF DECISION], available at <http://www.reo.gov/library/reports/newroda.pdf>; National Forests in Washington, Oregon, and California, 59 Fed. Reg. 18,788 (April 20, 1994).

<sup>86</sup> 565 F.3d 545 (9th Cir. 2009).

<sup>87</sup> *Id.* at 558 (holding that USFS may freely change its own interpretation of an ambiguous directive, as long as its interpretation is reasonable).

<sup>88</sup> The bill ends a long battle in California between suction dredge miners and the Karuk Tribe, which is fighting to end suction dredge mining, a hobby that adversely affects the tribe's salmon fishing rights. The Karuk Tribe's litigation successfully prompted the court to order the Department of Fish and Game to complete an environmental impact report. See *Karuk Tribe of Cal. v. Cal. Dep't of Fish and Game*, No. A115027, 2007 WL 2500217 (Cal. Ct. App. 2007).

<sup>89</sup> See New 49'ers Club, *supra* note 30 (advertising a "fantastic new suction dredging opportunity in Southern Oregon").

On August 6, 2009, Governor Schwarzenegger signed California Senate Bill 670<sup>90</sup> into law, temporarily banning motorized suction dredge mining upon state lands until the California Department of Fish and Game completes a court-ordered overhaul of regulations to protect fish and prevent stream pollution. The bill reflects California's recognition that suction dredge mining causes environmental harm, as the legislature found that "suction or vacuum dredge mining results in various adverse environmental impacts to protected fish species, the water quality of th[e] state, and the health of the people."<sup>91</sup> California's recognition of the environmental harm suction dredge mining causes and the state's willingness to impose restrictions on the recreational activity sets precedent for the federal government to follow.<sup>92</sup> Although the Department of Fish and Game has yet to make its scientific findings,<sup>93</sup> the future for suction dredge mining in California looks bleak for miners and golden for environmentalists.

*B. USFS's Mandates: Offering Minimal Controls in National Forests*

Courts grant USFS broad discretion to make forest management decisions, including the permissive use of suction dredges in national forests, in part because of the "multiple use" mandate controlling USFS. NFMA and NFP allow USFS too much unchecked discretion. Notably, neither the mandating statute nor the forest plan requires the agency to apply best available science when making forest management decisions. As responsible land managers, USFS should rightfully exercise its broad discretion to ban suction dredge mining within its jurisdiction.

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<sup>90</sup> See S.B. 670, 2009 Gen. Assem., Reg. Sess. (Cal. 2009), available at [http://info.sen.ca.gov/pub/09-10/bill/sen/sb\\_0651-0700/sb\\_670\\_bill\\_20090806\\_chaptered.pdf](http://info.sen.ca.gov/pub/09-10/bill/sen/sb_0651-0700/sb_670_bill_20090806_chaptered.pdf). Sen. Patricia Wiggins (D-Santa Rosa) introduced a package of bills in March to protect California's salmon populations. See *id.*; S.B. 539, 2009 Gen. Assem., Reg. Sess. (Cal. 2009) (requiring the Ocean Protection Council to provide a report to the Legislature that ranks solutions on how to reverse the decline of salmon and steelhead and lists costs of implementation), available at [http://info.sen.ca.gov/pub/09-10/bill/sen/sb\\_0501-0550/sb\\_539\\_bill\\_20090227\\_introduced.pdf](http://info.sen.ca.gov/pub/09-10/bill/sen/sb_0501-0550/sb_539_bill_20090227_introduced.pdf); S.B. 778, 2009 Gen. Assem., Reg. Sess. (Cal. 2009) (requiring California Dep't of Fish and Game to furnish a thorough accounting of funds generated from commercial fishing permits, commonly referred to as "salmon stamps"), available at [http://info.sen.ca.gov/pub/09-10/bill/sen/sb\\_0751-0800/sb\\_778\\_bill\\_20090227\\_introduced.pdf](http://info.sen.ca.gov/pub/09-10/bill/sen/sb_0751-0800/sb_778_bill_20090227_introduced.pdf). The funds are supposed to be spent on fisheries and habitat restoration. *Id.*

<sup>91</sup> S.B. 670 at 3.

<sup>92</sup> The moratorium only affects state lands and does not replace or supersede federal laws and USFS regulations. See *Suction Dredge Management on NFS Lands*, U.S. FEDERAL NEWS, August 30, 2009. Even with the moratorium in place, USFS still regulates mining operators in the Siskiyou and all national forests under the federal regulation at 36 C.F.R. § 228.

<sup>93</sup> See S.B. 670 (prohibiting the use of suction dredge equipment in any river, stream, or lake, until the department certifies that 1) it has completed the environmental review of its existing vacuum or suction dredge regulations as ordered by the court, 2) the department files a certified copy of new regulations, and 3) the new regulations are operative.)

*1. National Forest Management Act Requirements*

USFS's misguided management decisions result in part from the agency's historically shifting and somewhat diverse obligations. Upon formation, USFS operated under the Organic Act<sup>94</sup> with two missions: ensuring a dependable and continuous supply of timber and water for the nation.<sup>95</sup> Water reserved within national forests is particularly important because the national forest system dominates the headwaters of the most significant western rivers.<sup>96</sup> In *United States v. New Mexico*,<sup>97</sup> the Supreme Court clarified that under the Organic Act, Congress reserved water in national forests only for the purpose of preserving forest conditions dependent on that water, not for promoting aesthetic, environmental, recreational, or wildlife preservation purposes.<sup>98</sup> Congress subsequently enacted the Multiple-Use Sustained-Yield Act of 1963 (MUSYA),<sup>99</sup> which diversified the agency's goals, mandating management for outdoor recreation, wildlife, fish, and range resources, as well as timber and water supply.<sup>100</sup> Congress required USFS to give equal consideration to all resources, without providing substantive standards for enforcement.<sup>101</sup>

USFS's inability to effectively balance such diverse goals resulted in the creation of a new mandating statute, NFMA,<sup>102</sup> but NFMA did little to ease USFS's confusion. The agency must still provide for "multiple use and sustained yield" of forest products and services, in particular "outdoor recreation, range, timber, watershed, wildlife and fish, and wilderness."<sup>103</sup> NFMA does not guide USFS on how to prioritize and meet each of these diverse goals, leaving the agency the discretion to choose amongst conflicting uses.<sup>104</sup> In the case of suction dredge mining, watershed, fish, and wildlife needs clearly conflict with the "outdoor recreation" of mining.

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<sup>94</sup> 16 U.S.C. § 475 (2006).

<sup>95</sup> *Id.*

<sup>96</sup> See COGGINS ET AL., *supra* note 77, at 508.

<sup>97</sup> 438 U.S. 696 (1978).

<sup>98</sup> *Id.* at 707. The court refrained from deciding whether the Multiple-Use Sustained-Yield Act authorized a broader doctrine of reserve water rights for subsequent reservations than permitted by the Organic Act. *Id.* at 715 n.22.

<sup>99</sup> 16 U.S.C. §§ 528–31 (2006).

<sup>100</sup> See *id.* § 528. MUSYA did not specifically mandate the Secretary of Agriculture to manage for minerals, since BLM oversees the development of minerals in national forests. USFS however, regulates mining activities in order to protect the other forest resources that mineral activities may affect. See COGGINS ET AL., *supra* note 77, at 686–87.

<sup>101</sup> 16 U.S.C. § 531(a).

<sup>102</sup> National Forest Management Act of 1976, 16 U.S.C. §§ 1600–14 (2006).

<sup>103</sup> *Id.* § 1604(e)(1).

<sup>104</sup> The Secretary of the Interior still exercises broad discretion in managing federal lands. In reviewing MUSYA and NFMA the Supreme Court concluded that the statute "breathe[s] discretion at every pore." *Strickland v. Morton*, 519 F.2d 467, 468 (1975); *Griffin v. Yueter*, 944 F.2d 908, 908 (1991). For more on the agency's discretion in balancing multiple use and sustained yield, see Sara A. Clark, *Taking a Hard Look at Agency Science: Can the Courts Ever Succeed?*, 36 *ECOLOGY L. Q.* 317 (2009) which notes that that despite Congressional effort to reorient USFS priorities, "the conflicts between . . . recreation, biodiversity, ecological sustainability, and resource production" require USFS to make "difficult choices." *Id.* at 320-26.

Banning suction dredge mining in the Siskiyou National Forest would not violate USFS's duty to manage for multiple uses; recreational miners could still pan for gold, enjoying "outdoor recreation" without compromising watershed quality by disrupting fish redds or churning up mercury with mechanical vacuums.<sup>105</sup> MUSYA defines "multiple-use" as requiring the management of various resources within the forest so that "they are utilized in the combination that will best meet the needs of the American people . . . with consideration being given to the relative values of the various resources."<sup>106</sup> The statute fails to direct USFS on how to value these uses, thereby granting USFS vast discretion. The United States District Court for the District of Alaska reinforced this view in *Sierra Club v. Hardin*,<sup>107</sup> declaring, "Congress has given no indication as to the weight to be assigned each value and it must be assumed that the decision as to the proper mix of uses within any particular area is left to the sound discretion and expertise of the Forest Service."<sup>108</sup> USFS, after giving "due consideration" to the value of suction dredge mining weighed against the ecological value of the waterways, may lawfully restrict the specific use of motorized suction dredges and still comply with its statutory mandate.<sup>109</sup>

## 2. USFS's Failure to Use Best Available Science

One of the main deficiencies with USFS's management priorities resides in the agency's ability to dismiss or ignore the best available science.<sup>110</sup> Unlike the ESA,<sup>111</sup> NFMA contains no requirement for USFS to consult, or

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<sup>105</sup> See discussion *supra* Part II.B.2.

<sup>106</sup> 16 U.S.C. § 531(a).

<sup>107</sup> 325 F. Supp. 99 (D. Alaska 1971).

<sup>108</sup> *Id.* at 123. The court of appeals vacated and remanded the district court's decisions. *Sierra Club v. Butz*, 3 Envtl. L. Rptr. (Envtl. Law Inst.) 20,292, 20,293 (9th Cir. 1972). On appeal the court accepted the district court's original analysis, cautioning that "due consideration" requires that the values in question be informedly and rationally taken into consideration. Similarly, the Ninth Circuit reasoned that BLM, under its analogous multiple-use mandate "need not permit all resource uses on a given parcel of land." *Headwaters, Inc. v. Bureau of Land Mgmt.*, 914 F.2d 1174, 1182 (9th Cir. 1990) (quoting *Rocky Mountain Oil & Gas Ass'n v. Watt*, 696 F.2d 734, 738 (10th Cir. 1982)).

<sup>109</sup> USFS still must honor mining claims under the Mining Law of 1872. For a discussion on the agency's requirements with regards to suction dredges, see discussion *infra* Part IV.A.

<sup>110</sup> "Best available science" does not hold one static definition amongst statutes. *Compare* Marine Mammal Protection Act of 1972, 16 U.S.C. §§ 1361–1421h (2006) (mandating the use of the "best scientific information available"), *with* Safe Drinking Water Act, 42 U.S.C. §§ 300f–300i (2006) (mandating use of the "best available, peer reviewed science and supporting studies conducted in accordance with sound and objective scientific practices"). Courts determined that the "best available science" standard requires the agencies to act prior to waiting for conclusive data, and that the agencies need not conduct independent research and relatively minor flaws do not render that data unreliable. See, e.g., *Sw. Ctr. for Biological Diversity v. Norton*, No. 98-934, 2002 WL 1733618 at \*14–16 (D.D.C. July 29, 2002).

<sup>111</sup> 16 U.S.C. §§ 1531–1544 (2006). The ESA includes three scientific standards: 1) "best available biological information derived from professionally accepted wildlife management practices," *id.* § 1537a(c)(2); 2) "substantial scientific or commercial information," *id.* § 1533(b)(3)(A); and 3) "best scientific and commercial data available," *id.* § 1533(b)(1)(A). Specifically, the ESA mandates that the application of best available science in listing decisions

base its decisions on the best available science.<sup>112</sup> Similarly, the Northwest Forest Plan, which provides standards and guidelines for USFS to follow in the Siskiyou National Forest, imposes no best available science standard for the agency.<sup>113</sup> A best available science standard imposed upon USFS would require it to recognize the scientific reality that suction dredge mining harms the aquatic ecosystem,<sup>114</sup> thereby requiring USFS to restrict such actions within the Siskiyou.

Instead, NFMA grants broad discretion to USFS regarding the consultation and application of science. The statute does require the agency to use a “systematic interdisciplinary approach to achieve integrated consideration of physical, biological, economic, and other science.”<sup>115</sup> USFS must also “provide for diversity of plant and animal communities based on the suitability and capability of the specific land areas.”<sup>116</sup> Historically, the courts interpreted this section as imposing some scientific standard on USFS.<sup>117</sup> Recently, the Ninth Circuit, in an en banc decision, affirmed USFS’s broad discretion regarding scientific consultation.<sup>118</sup> The court bestowed broad discretion on USFS; as long as the agency explains its general scientific assumptions it need not demonstrate the reliability or scientific basis behind its assumptions.<sup>119</sup> The Ninth Circuit reaffirmed this lax scientific standard, explaining that its holding in *Lands Council v. McNair*

does not require the Forest Service to conduct any particular test or use any particular method. . . . [This approach] requires us to defer to an agency’s determination in an area involving a high level of technical expertise . . . . [W]e are not free to impose on the agency [our] own notion of when procedures are best or most likely to further some vague, undefined public good.<sup>120</sup>

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must be based on the “best available scientific and commercial data available,” expressly forbidding consideration of all other factors.

<sup>112</sup> See 16 U.S.C. § 1604 (2006).

<sup>113</sup> See NFP RECORD OF DECISION, *supra* note 85, at 1–2. The NFP resulted from an interagency, interdisciplinary team of expert scientists, economists, sociologists and others, led by Dr. Jack Ward Thomas. The plan was written using best available science, but the NFP imposes no further requirement on the agency to consult or utilize best available science in its decision making under the plan. *Id.*

<sup>114</sup> See discussion *supra* Part II.B.2.

<sup>115</sup> 16 U.S.C. § 1604(b) (2006).

<sup>116</sup> *Id.* § 1604(g)(3)(B).

<sup>117</sup> See *Ecology Ctr. v. Austin*, 430 F.3d 1057, 1064 (9th Cir. 2005) (holding that on-the-ground analysis is necessary to verify the reliability of USFS’s scientific assumptions, thereby assigning some scientific standard for the agency to meet).

<sup>118</sup> *Lands Council v. McNair*, 537 F.3d 981, 988–94 (9th Cir. 2008) (stating that USFS is not required to conduct on-the-ground analysis and that its analysis, based upon modeling, which analyzed the effects of treating old-growth habitat was not arbitrary and capricious).

<sup>119</sup> *Id.* Subsequent cases confirm this interpretation. See, e.g., *League of Wilderness Defenders v. U.S. Forest Serv.*, 549 F.3d 1211, 1218 (9th Cir. 2008) (“It is not for this court to tell the Forest Service what *specific* evidence to include, nor how *specifically* to present it.”).

<sup>120</sup> *League of Wilderness Defenders*, 548 F.3d at 1218 (quoting *Lands Council*, 537 F.3d at 993); see also *Bark v. U.S. Bureau of Land Mgmt.*, 643 F. Supp. 2d 1214, 1223 (D. Or. 2009) (“[W]e are not free to impose on the agency our own notion of which procedures are best . . . .

For suction dredge mining in national forests, USFS may rule without bounds; it need not consult the most accurate scientific reports when managing suction dredge mining. Instead, the agency may consult out-of-date, unreliable “scientific” reports and base its “scientific” decisions on political or economic factors.<sup>121</sup> Neither Congress nor the courts will force USFS to use best available science. However, the best available science reveals that suction dredge mining destroys riparian reserves within the Siskiyou National Forest,<sup>122</sup> and USFS, in the wise exercise of its discretion, should follow the science in banning such practices.

USFS should follow California’s lead. Although no law forced the California legislature to declare that suction dredge mining causes “adverse environmental impacts to protected fish species, the water quality of th[e] state, and the health of the people,”<sup>123</sup> the state chose to follow the scientific reality. Likewise, USFS, though under no obligation, should ban suction dredge use within the Siskiyou to comply with recommendations of best available science.

### C. USFS’s Reign Over the Siskiyou

Recently, environmentalists unsuccessfully challenged USFS’s lax oversight of suction dredge mining in the Siskiyou National Forest. The Ninth Circuit’s holding in *Siskiyou Regional Education Project v. U.S. Forest Service*<sup>124</sup> reinforces the broad discretion granted to USFS. The court correctly decided the question of administrative law, granting deference to USFS’s ever-changing interpretation of its own directive.<sup>125</sup> Pursuant to its authority under the Organic Act,<sup>126</sup> USFS first adopted mining regulation in 1974,<sup>127</sup> drawing authority from the Surface Resource Act of 1955.<sup>128</sup> The agency’s present regulations instruct that a person proposing to “conduct

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Nor may we impose procedural requirements not explicitly enumerated in the pertinent statutes.” (quoting *Lands Council*, 537 F.3d at 993)).

<sup>121</sup> For more on USFS’s incentive to make policy decisions “cloak[ed] behind claims of science” see Clark, *supra* note 103, at 319–20 who argues that political, economic, and cultural incentives in conflict with ecological goals, push USFS to “disguise policy judgments as scientific decisions in order to avoid stringent judicial review and political accountability.”

<sup>122</sup> See Harvey & Lisle, *supra* note 32; see discussion *supra* Part II.B.2.

<sup>123</sup> Act of Aug. 6, 2009, ch. 62, § 2, 2009 Cal. Legis. Serv. 2286 (West) (codified at CAL. FISH & GAME § 5653.1 (West 1998 & Supp. 2010)).

<sup>124</sup> 565 F.3d 545 (9th Cir. 2009).

<sup>125</sup> *Id.* at 554–58. “Agencies are entitled to deference to their interpretation of their own regulations, including Forest Plans.” *Id.* at 554–55; see also *Hells Canyon Alliance v. U.S. Forest Serv.*, 227 F.3d 1170, 1180 (9th Cir. 2000). The court treats directives as equivalent to federal regulations adopted under the Administrative Procedure Act, 5 U.S.C. §§ 551–559, 701–706, 1305, 3105, 3344, 4301, 5335, 5362, 7521 (2006), deferring to the agency’s interpretation of ambiguous plan unless plainly erroneous or inconsistent with the directive. See, e.g., *Forest Guardians v. U.S. Forest Serv.*, 329 F.3d 1089, 1099 (9th Cir. 2003).

<sup>126</sup> Forest Service Organic Administration Act of 1897, 16 U.S.C. §§ 478, 551 (requiring USFS to make provisions for the protection of depredation on National Forests, to regulate forest occupancy and use, but not prohibit lawful entry, which includes mineral prospecting).

<sup>127</sup> See *Siskiyou Reg’l Education Project*, 565 F.3d at 550.

<sup>128</sup> 30 U.S.C. § 611–615.

operations which *might* cause disturbance of surface resources” must submit a “notice of intent” providing minimal information related to the nature of the mining operation.<sup>129</sup> The notice of intent allows USFS to determine if the operation will “likely cause disturbance”; if so, the miner must submit a “proposed plan of operation.”<sup>130</sup> Only when the more detailed “proposed plan of operation” is required does the ranger closely evaluate the activity to “minimize adverse environmental impacts” and to consider whether it violates substantive environmental laws such as the Clean Air Act,<sup>131</sup> the ESA, and the CWA.<sup>132</sup> While these regulations seemingly offer environmental screening by USFS, they actually allow most miners to partake in suction dredge mining without careful scrutiny from USFS. The notice of intent, unlike a more detailed plan of operation, does not include site-specific plans; USFS evaluates neither the environmental impact on the specific waterway nor the size of the operation.<sup>133</sup>

USFS’s requirements under the NFP offer seemingly more restrictive requirements prior to issuing suction dredge permits. The NFP contains Aquatic Conservation Strategies (ACS) to protect salmon and steelhead, maintain or restore riparian and aquatic ecosystems, and protect fish habitat.<sup>134</sup> The NFP’s “Mineral Management Standard and Guideline MM-1” (MM-1) requires an “approved plan of operation” for all minerals operations within riparian reserves, including suction dredge mining.<sup>135</sup> The NFP, on its face, thus requires miners to submit more detailed plans than USFS’s prior regulations required.<sup>136</sup> However, the NFP also states that “[n]one of these standards and guidelines applies where they [are] contrary to existing law or regulation.”<sup>137</sup> USFS addressed the apparent conflict between MM-1 of the NFP and the agency’s regulation, 36 CFR § 228.4(a), in a 2002 directive, qualifying that MM-1 applies only when the proposed activity is “likely to cause significant surface disturbance” to riparian reserves.<sup>138</sup> Thus, USFS’s interpretation requires a miner to submit a plan of operation only if the mining will “likely” cause a significant disturbance and a notice of intent if the operation “may” cause significant disturbances.<sup>139</sup>

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<sup>129</sup> 36 C.F.R. § 228.4 (2002) (emphasis added).

<sup>130</sup> *Id.*

<sup>131</sup> Clean Air Act, 42 U.S.C. §§ 7401–7671q (2006).

<sup>132</sup> *Id.*; *see also* 36 C.F.R. § 228.8 (requiring that all operations within national forests are conducted to minimize and, if feasible, to avoid adverse environmental impacts including air quality, water quality, solid wastes, scenic values, roads, reclamation, fisheries, and wildlife habitat).

<sup>133</sup> 36 C.F.R. § 228.4(c).

<sup>134</sup> STANDARDS AND GUIDELINES, *supra* note 70, at B-9–B-32.

<sup>135</sup> *Id.* at C-34.

<sup>136</sup> The NFP requires a plan of operation for all mineral operations; Forest Service regulation 36 C.F.R. § 228.4 requires a plan of operation only when operations are “likely” to cause a significant disturbance to surface resources. *See Siskiyou Reg’l Education Project*, 565 F.3d 545, 550–53 (9th Cir. 2009).

<sup>137</sup> STANDARDS AND GUIDELINES, *supra* note 70, at C-1.

<sup>138</sup> *Siskiyou Reg’l Education Project*, 565 F.3d at 550.

<sup>139</sup> *Id.* at 552–53.

In *Siskiyou Regional Education Project*, the Ninth Circuit reaffirmed the broad deference granted to USFS regarding mining within the Siskiyou National Forest, finding the Service's interpretation reasonable and permissible.<sup>140</sup> As a result, USFS can allow miners to engage in suction dredge operations in riparian reserves within Siskiyou National Forest simply upon the filing of a notice of intent without requiring the submission or approval of a plan of operations.<sup>141</sup>

USFS's interpretation of its directive requiring only a notice of intent prior to approving a suction dredge operation reflects inconsistency within the agency. A review of prior agency policies reveals conflicting statements regarding the "insignificance" of suction dredge mining.<sup>142</sup> USFS's statements show an ever-changing stance on suction dredge mining and a failure to base its decisions on scientific reality.

In 1995, soon after the Clinton Administration's revolutionary implementation of the NFP,<sup>143</sup> USFS responded to a lawsuit, stating:

There are numerous, small placer mining operations using suction dredges and similar equipment occurring in [riparian reserves] and [late-successional reserves] throughout Regions 5 & 6. The majority of these operations are carried out under a [notice of intent] because of the *insignificant nature* of their operations. The mining [standards and guidelines] within the [Northwest Forest Plan] for riparian reserves and [late-successional reserves] would therefore not apply because there is no regulatory provision for including [standards and guidelines] in a [notice of intent].<sup>144</sup>

USFS's reliance on a notice of intent due to the "insignificant nature" of suction dredge operations is without scientific merit. As discussed above,<sup>145</sup> suction dredge mining disrupts essential salmon habitat, disturbing redds and creating unstable soil conditions for future spawning.<sup>146</sup> The disruption of mercury from the river and streambeds pollutes water, poisons fish, and can eventually become subject to human consumption.<sup>147</sup> This aquatic and environmental degradation is not ecologically "insignificant."

Subsequently, USFS altered its interpretation, determining that "for the immediate term, the Siskiyou National Forest has no choice but to comply with MM-1. Until some action is taken to amend the Northwest Forest Plan or Siskiyou National Forest Land and Resource Management Plan," MM-1

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<sup>140</sup> *Id.* at 557–58.

<sup>141</sup> *See id.* at 550, 558 (describing the practice by which the Service allows mining that was affirmed in the case).

<sup>142</sup> *See* Plaintiff-Appellant's Opening Brief, *Siskiyou Reg'l Education Project v. U.S. Forest Serv.*, 565 F.3d 545 (9th Cir. 2009), Nos. 06-35332, 06-35373, 06-35381, *available at* 2006 WL 3096723.

<sup>143</sup> For a discussion on the politics surrounding the Northwest Forest Plan, see generally KATHIE DURBIN, *TREE HUGGERS: VICTORY, DEFEAT & RENEWAL IN THE NORTHWEST ANCIENT FOREST CAMPAIGN* 179–231 (1996).

<sup>144</sup> *See* Plaintiff-Appellant's Opening Brief, *supra* note 140 (quoting a letter from USFS) (emphasis added).

<sup>145</sup> *See* discussion *supra* Part II.B.2.

<sup>146</sup> *See* discussion *supra* Part II.B.2.

<sup>147</sup> *See* discussion *supra* Part II.B.2.

applies.<sup>148</sup> In complying with MM-1, USFS required an approved plan of operation for all mineral operations within riparian reserves, including suction dredge mining. Soon after, during a draft environmental impact statement review, USFS found that “if miners operate without approved plans of operation, adverse impacts to the environment would be more likely.”<sup>149</sup> USFS’s statements recognize the negative environmental impacts of suction dredge mining. Unfortunately, the agency abandoned this stance during the Bush Administration, when it discarded the plan of operation requirement in favor of the minimal “notice of intent.”<sup>150</sup> In only requiring a notice of intent, USFS allows miners to enter precious riparian reserves without reviewing the miners individual plans or considering the ecological harm each miner will have on a specific section of the forest.

USFS’s treatment of suction dredge mining shows inconsistency and reflects a practice rooted in politics rather than science.<sup>151</sup> By failing to continuously recognize the harmful ecological impact of suction dredge mining, USFS puts aquatic resources at risk. The agency has an obligation to honor the standards contained within the NFP to protect fish habitat, protect salmon and steelhead, and maintain or restore riparian and aquatic ecosystems.<sup>152</sup> Instead, by allowing suction dredge mining in riparian reserves, the agency exercises its discretion to allow environmental degradation.

#### IV. OUTDATED MINING LAWS

The heart of all mining on public lands, including suction dredge mining, begins with the outdated Mining Law. While many miners believe the Mining Law imparts an absolute right to mine, the law does not prevent USFS from denying miners the “right”<sup>153</sup> to run environmentally harmful suction dredges.<sup>154</sup>

Congress enacted the Mining Law during the Gold Rush and it still governs precious metal mining on most federal lands today, including mining for gold, silver, and copper.<sup>155</sup> To promote settlement of western lands, the Mining Law allows public lands prospecting and grants a valid mining claim

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<sup>148</sup> See Plaintiff-Appellant’s Opening Brief, *supra* note 140.

<sup>149</sup> *Id.*

<sup>150</sup> See *Siskiyou Reg’l Education Project*, 565 F.3d 545, 553 (9th Cir. 2009).

<sup>151</sup> Clark, *supra* note 103, at 319–20.

<sup>152</sup> STANDARDS AND GUIDELINES, *supra* note 70, at B-9 to -32.

<sup>153</sup> See Comment Letter from Gerald Hobbs, President of Public Lands for the People on the Right to Mine, to the Cal. Dep’t of Fish and Game 39 (Nov. 17, 2009) (on file with the Cal. Dep’t of Fish and Game) (arguing for an exclusive “right” in suction dredge mining).

<sup>154</sup> 30 U.S.C. § 26 (2006).

<sup>155</sup> See *Baker v. United States*, 928 F. Supp. 1513, 1519 (D. Idaho 1996) (holding that USFS cannot categorically deny otherwise reasonable mining plan of operations, though it does have the power to reject unreasonable plans, and impose conditions on mining activity, including environmentally harmful plans).

<sup>155</sup> 30 U.S.C. §§ 21a, 23 (2006). The Mineral Leasing Act of 1920 removed “fuel” minerals, including oil, gas, and coal, from Mining Law jurisdiction. See Mineral Leasing Act of 1920, 30 U.S.C. §§ 201–210 (2006). Similarly, the Materials Act of 1947, as amended in 1955, removed sand, stone, gravel, and clay from Mining Law jurisdiction. See 30 U.S.C. §§ 601–615 (2006).

to anyone who discovers a valuable mineral deposit on federal lands.<sup>156</sup> The Mining Law states that any locator who “discovers”<sup>157</sup> valuable minerals on public lands “shall have the exclusive right of possession and enjoyment of all of the surface included within the lines of their locations.”<sup>158</sup>

On national forests, USFS must comply with the Organic Act, which grants “any person [the right to enter] . . . national forests for proper and lawful purposes, including that of prospecting, locating, and developing mineral resources thereof.”<sup>159</sup> Miners with claims on national forests, which have been removed from the public domain and reserved for forest use,<sup>160</sup> obtain only common law mineral rights including the right to prospect for, locate, and obtain “intralimital” mineral rights.<sup>161</sup> Even after establishing a valid mining claim, that claim exists only “so long as [it complies] with the laws of the United States, and with State, territorial, and local regulations.”<sup>162</sup> Additionally, applying for a patent does not automatically grant a miner the land; the Secretary of the Interior’s duties include reviewing patent applications to ensure that all legal requirements have been met.<sup>163</sup> Though

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<sup>156</sup> 30 U.S.C. § 23; *see also* *Lara v. Sec’y of Interior*, 820 F.2d 1535, 1537 (9th Cir. 1987) (“A mining claimant has the right to possession of a claim only if he has made a mineral discovery on the claim.”).

<sup>157</sup> *See* *United States v. Zweifel*, 508 F.2d 1150, 1154 (10th Cir. 1975) (defining “discovery” as the actual physical disclosure of a valuable mineral deposit).

<sup>158</sup> 30 U.S.C. § 26.

<sup>159</sup> 16 U.S.C. § 478 (2006); *see also* U.S. FOREST SERV., U.S. DEP’T OF AGRIC., *THE PRINCIPAL LAWS RELATING TO FOREST SERVICE ACTIVITIES*, 1 (1993) (“The U.S. Mining Laws, unless otherwise provided by law, apply to all mineral deposits in [ ] National Forest lands reserved from the public domain . . .”).

<sup>160</sup> *See* *Pathfinder Mines Corp. v. Hodel*, 811 F.2d 1288, 1291 (9th Cir. 1987) (stating that the Organic Act removed forest reserves from the public domain); *see also* *United States v. Jenks*, 804 F. Supp. 232, 236 (D.N.M. 1992) (finding that reservation of public domain lands for national forests “severs the reserved lands from the public domain”).

<sup>161</sup> *See* 30 U.S.C. § 26 (2006). Intralimital mineral rights grant the miner a right “only to the minerals within the boundaries of the claim.” *See* Laura S. Ziemer, *The 1872 Mining Law and the 20th Century Collide: A Rediscovery of Limits on Mining Rights in Wilderness Areas and National Forests*, 28 ENVTL. L. 145, 159 (1998).

<sup>162</sup> 30 U.S.C. § 26 (2006). An unpatented mining claim is a “unique form of property.” *W. Mining Council v. Watt*, 643 F.2d 618, 628 (9th Cir. 1981). This possessory interest allows miners to extract and sell gold without paying royalties to the Government. *See* *United States v. Friedland*, 152 F. Supp. 2d 1234, 1245 (D. Colo. 2001); *see also* Ziemer, *supra* note 161, at 166 (highlighting the political unpopularity of the Mining Law’s treatment of royalties). Fee simple title to the land remains with the United States. *See* *Friedland*, 152 F. Supp. 2d at 1245. Only when a miner applies for an application for a patent does the Secretary of the Interior issue the miner a patent for fee simple title to the land as a private land owner. 30 U.S.C. § 29; *see also* *Cameron v. United States*, 252 U.S. 450, 460 (1920) (emphasizing the authority of the Secretary of the Interior to ensure that the Mining Law is properly executed). In 1994, Congress imposed a moratorium on appropriations for mineral patent applications, freezing the processing of new mineral patents. The moratorium is still in place today. *See* Bureau of Land Management, *Extension of Approved Information Collection*, 74 Fed.Reg. 26,727 (2009) (summarizing the current state of mineral patenting within the Department of the Interior).

<sup>163</sup> *See* *Barrick Goldstrike Mines Inc. v. Babbitt*, No. Cv-N-93-550-HDM, 1994 WL 836324 at \*3 (D. Nev. Jan. 14, 1994) (comparing the Eighth Circuit’s view that the Secretary’s approval of a valid patent application is non-discretionary and “purely a ministerial act,” to the Ninth Circuit’s emphasis that a patent right only vests when the application is valid under existing law). While

suction dredge miners within the Siskiyou may possess valid mining claims, the right is limited and USFS can exercise its discretion to prohibit the miners' harmful operations.

*A. No Automatic "Right to Mine"*

Miners wrongly assume that they possess a right to enter the Siskiyou National Forest with their suction dredges. In particular, complaints from miners upset by the recent California moratorium on suction dredge mining reflect this declaratory "right" to run suction dredges inside the Siskiyou National Forest. Miners accuse the federal government of "overstepp[ing] its bounds" and interfering with a "right bestowed on them" by the Mining Law, which they argue "opens lands to mining, regardless of federal rules and regulations."<sup>164</sup> The unique nature of a mining claim clearly causes confusion as to what "right" the claim conveys to miners.<sup>165</sup> Under the plain language of the Mining Law, a claim exists "subject to" laws of the United States.<sup>166</sup> Until Siskiyou miners obtain a patent, an unlikely event given an extended moratorium,<sup>167</sup> the United States retains "paramount rights and interests in the Federal lands under the claim and maintains the authority to regulate the uses of those lands."<sup>168</sup>

Under the Mining Law, however, the United States maintains the right to protect the land and its product from trespass or waste and may regulate mining activities in the national forests in order to protect surface resources.<sup>169</sup> Therefore, either USFS or Congress can restrict unpatented claim holders' use of suction dredges inside the Siskiyou National Forest by determining that suction dredge miners destroy forest resources. The miners correctly presume that a claim grants them protection against USFS totally "excluding" them from the claimed land.<sup>170</sup> Under the Mining Law, USFS cannot exclude miners from partaking in non-surface disturbing mining activities, such as panning for gold.<sup>171</sup> However, USFS should exclude

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USFS maintains authority to regulate national forest lands, the Secretary of the Interior maintains jurisdiction over mining claims, even those on national forests, under regulations that require a mining claimant to file notice with the local BLM Office. *See* 43 C.F.R. § 3833.1(a) (2009).

<sup>164</sup> Chris Conrad, *Arrest, Banning Plan Concerns Southern Oregon Miners*, MAIL TRIBUNE, Oct. 29, 2009, <http://www.mailtribune.com/apps/pbcs.dll/article?AID=/20091029/NEWS/910290326> (last visited July 11, 2010).

<sup>165</sup> *See* Keith Goetzman, UTNE Reader, *Suction Dredge Gold Miners Hoppin' Mad Over Ban*, Aug. 8, 2009, <http://www.utne.com/Environment/Suction-Dredge-Gold-Miners-Hoppin-Mad-Over-Ban-5188.aspx>.

<sup>166</sup> 30 U.S.C. § 28.

<sup>167</sup> *See* COGGINS ET AL., *supra* note 77, at 589 (explaining that from 1872 to 1994 an unpatented claim holder could seek fee simple title to federal lands, until Congress issued a moratorium on new patent applications. Congress could restart the issuance of patents at anytime).

<sup>168</sup> *Friedland*, 152 F. Supp. 2d 1234, 1245 (D. Colo. 2001).

<sup>169</sup> *Id.* at 1244–46; *see also* *United States v. Nogueira*, 403 F.2d 816, 824 (9th Cir. 1968).

<sup>170</sup> *See* *Baker v. U.S. Dep't of Agric.*, 928 F. Supp. 1513, 1518 (D. Idaho 1996) (finding that no mining activity can proceed until USFS has evaluated the Plan and imposed mitigation measures).

<sup>171</sup> *See* *Friedland*, 152 F. Supp. 2d at 1246 (holding that the United States is not allowed to exclude individuals from the land and may only regulate mining activities in the national forests).

suction dredge mining because it is a surface disturbing activity.<sup>172</sup> To “protect surface resources” USFS may lawfully require a plan of operation from suction dredges in national forests and deny environmentally harmful plans, without violating the Mining Law or the Organic Act.<sup>173</sup>

### *B. Invalid Recreational Mining Claims*

Although miners with established mining claims (patented or unpatented) within the Siskiyou extract gold with a suction dredge, the Mining Law may not validate such recreational mining claims. The Mining Law opens “all valuable mineral deposits” on federal lands to U.S. citizens for exploration and purchase.<sup>174</sup> Prior to granting a mining claim or patent, the Secretary of the Interior may exercise discretion in determining whether the miner has actually discovered “valuable minerals” deserving of a claim or patent.<sup>175</sup> The Ninth Circuit determined that the

power confided by the Secretary with respect to the issuance of mineral patents is not that of granting or denying a privilege but of determining whether an existing privilege conferred by Congress has been lawfully exercised. . . . Nevertheless, *the Secretary is not authorized to issue a patent until he is satisfied that the requirements of the law have been complied with.*<sup>176</sup>

If recreational suction dredge miners fail to show the discovery of “valuable minerals” within the Siskiyou National Forest, BLM could deny the miner’s claims.<sup>177</sup> Similarly, citizens with “title to or an interest in the land” within the Siskiyou National Forest may lawfully contest mining claims.<sup>178</sup> In some circumstances, the Department of the Interior (DOI) even permits recreational users of federal lands, such as hikers and campers, to protest the grant of mining claims;<sup>179</sup> such groups could possibly challenge mining claims issued for land within the Siskiyou National Forest.

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in order to protect surface resources). Panning for gold is less disruptive to the streambed than suction dredge mining, as it does not involve a vacuum. AGEE, *supra* note 7, at 135. Gold panning only limits production to about a cubic yard of material per day. *Id.* at 125.

<sup>172</sup> Suction dredge mining disturbs the surface of rivers or stream beds and banks. Harvey & Lisle, *supra* note 32, at 9–11.

<sup>173</sup> *Friedland*, 152 F. Supp. 2d at 1246.

<sup>174</sup> 30 U.S.C. § 22 (2006).

<sup>175</sup> See *Barrick Goldstrike Mines Inc.*, No. Cv-N-93-550-HDM, 1994 WL 836324 at \*3 (D. Nev. Jan. 14, 1994).

<sup>176</sup> See *Swanson v. Babbit*, 3 F.3d 1348, 1353 (9th Cir. 1993).

<sup>177</sup> *Id.*

<sup>178</sup> See *In Re Pacific Coast Molybdenum Co.*, 68 IBLA 325, 334 (1982) (finding that to qualify as possessing an “interest in the land,” the party must have an interest grounded on a specific statutory grant. A party cannot acquire property rights to Federal land by the “mere use of the land”).

<sup>179</sup> The Ninth Circuit ruled that an organization representing recreational users had standing to challenge the grant of mineral patents in a wilderness area. *Wilderness Soc’y v. Dombeck*, 168 F.3d 367 (9th Cir. 1999).

In determining whether a miner's claim qualifies as a "valuable mineral" the courts apply both the "prudent person rule" and the "marketability test."<sup>180</sup> The prudent person rule determines that a claim does not contain "valuable minerals" when "no prudent [person would] extract because there is no demand for them at a price higher than the cost of extraction and transportation."<sup>181</sup> The complimentary "marketability test" requires that miners can extract, process, transport, and market the minerals at a profit in order for the deposit to be considered a valuable mineral.<sup>182</sup> The government may determine a mining claim invalid when a mineral examiner examines a site and finds no mineralization sufficient to support a finding of discovery of a valuable mineral.<sup>183</sup> To discover a valuable mineral, the miner must realize a profit from the material itself over the cost of extraction, a profit sufficient to attract a reasonable person.<sup>184</sup> The profits derived from sources other than the mineral itself, such as recreational mining tours, receive no consideration in the marketability test.<sup>185</sup>

Recreational suction dredge mining likely fails to meet the prudent person rule and marketability test; if the Secretary of the Interior evaluated the validity of claims on the Siskiyou National Forest, the Secretary would find many of the claims invalid for failing to attach to valuable minerals. Due to the recreational nature of suction dredge mining, miners often purchase expensive dredging equipment, though their efforts may produce little to no actual gold.<sup>186</sup>

Extraction fees for recreational suction dredge mining escalate quickly. A miner can obtain a five-inch suction dredge and miscellaneous gear necessary to run the machine "for under \$5,000."<sup>187</sup> To extract the gold from the riverbed, miners must wear wetsuits and often use SCUBA equipment or attach a Hookah Air system to the suction dredge, adding to the overall price.<sup>188</sup> A report by the California Department of Fish and Game revealed that on average, a recreational miner spends \$6250 per season on expenses and an additional \$3000 on gas and repairs.<sup>189</sup> Clearly, recreational miners adopt an expensive hobby.

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<sup>180</sup> 53A AM. JUR. 2D *Mines and Minerals* § 24 (2006).

<sup>181</sup> See *United States v. Coleman*, 390 U.S. 599, 602 (1968); *Hjelvik v. Babbitt*, 198 F.3d 1072, 1074 (9th Cir. 1999).

<sup>182</sup> *Roberts v. Morton*, 549 F.2d 158, 162-63 (10th Cir. 1976) (explaining that just because a mineral is a precious metal, does not mean the marketability test is irrelevant or does not apply).

<sup>183</sup> *Hallenbeck v. Kleppe*, 590 F.2d 852, 859 (10th Cir. 1979).

<sup>184</sup> *Ideal Basic Indus., Inc. v. Morton*, 542 F.2d 1364, 1369 (9th Cir. 1976).

<sup>185</sup> *Id.*

<sup>186</sup> CAL. DEP'T OF FISH AND GAME, *supra* note 41, at 4.6-4. A 1993 survey by the State of California Department of Fish and Game revealed recreational miners comprising ninety percent of the suction dredge mining industry do not mine for profit, as none of their mining proceeds contribute to their annual income. See *id.* at 4.6-2. The report revealed recreational mining is an expensive hobby, requiring an average initial investment of six thousand dollars on just the suction dredge. *Id.* at 4.6-1.

<sup>187</sup> See Pro-Mack Mining, Underwater Mining Specialists, *supra* note 39.

<sup>188</sup> See CAL. DEP'T OF FISH AND GAME, *supra* note 41, at 2-2.

<sup>189</sup> *Id.* at 4.6-1.

To determine whether the miner's claim attaches to a valuable mineral, the Secretary of the Interior weighs the expense of the operation against the profit from the located minerals.<sup>190</sup> The miners may legitimately argue that the high price of gold makes it a "valuable mineral" and therefore gold mining claims along the Siskiyou are valid. Indeed, the rising cost of gold means a high profit when miners actually find gold; in 2010, gold prices soared to a record high of approximately \$1100 per ounce.<sup>191</sup> In 2005, mining claims in Oregon spiked when gold prices hit just \$420 per ounce; the high price of gold drives the desire to invest in suction dredge equipment and to stake a claim on the Siskiyou.<sup>192</sup>

The high value of gold makes mining claims desirable, but not necessarily profitable. In reality, most streambeds within the Siskiyou contain "placer gold," most "commonly found in flake form, usually about the size of flattened grains of rice and smaller."<sup>193</sup> Only rarely do miners find larger golden nuggets.<sup>194</sup> Many miners consider suction dredge mining an "interesting pastime," recognizing the lack of profitability.<sup>195</sup> One miner acknowledged, "it's very unlikely that you will strike it rich or make a big gold find."<sup>196</sup> Another miner agreed that "maybe one prospect in [fifty] will turn out to be something, and most of those won't turn out to be much."<sup>197</sup>

The low profitability of suction dredge mining likely fails the marketability test for establishing a valid claim under the Mining Law. As for the "prudent person" test, the high cost of investing in the recreational equipment weighed against the low probability of finding more than golden flakes fails to demonstrate that a "person of ordinary prudence would be justified in a further expenditure of his labor and means, with a reasonable prospect of success," in developing the claim.<sup>198</sup> Clearly suction dredge mining retains value primarily as a recreational activity. If the Secretary of the Interior chooses to invalidate recreational suction dredge claims<sup>199</sup> within the Siskiyou and to stop allowing future claims, the action would not violate the Mining Law and the miners would not lose an unqualified right to mine.

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<sup>190</sup> See *Cameron v. United States*, 252 U.S. 450, 460–61 (1920).

<sup>191</sup> See Matt Whittaker, *High Gold Price Spurs Deals For Small Mining Companies*, WALL ST. J., Mar. 24, 2010, at B5.

<sup>192</sup> See CAL. DEP'T OF FISH AND GAME, *supra* note 41, at 4.5.3 (reporting that interest in suction dredge mining spikes as gold prices increase); Joseph Frazier, *The Rising Price of Gold Drives Spike in Mining Claims*, THE EUGENE REG.-GUARD, Feb. 21, 2005, at B6.

<sup>193</sup> Pro-Mack Mining, Underwater Mining Specialists, *supra* note 39.

<sup>194</sup> *Id.*

<sup>195</sup> Nev. Outdoor Gems, Dredging and Driving for Gold Nuggets: Placer Mining and How to Dredge, [http://nevada-outback-gems.com/basic\\_prospecting/Dredging.htm](http://nevada-outback-gems.com/basic_prospecting/Dredging.htm) (last visited April 14, 2010).

<sup>196</sup> *Id.*

<sup>197</sup> Frazier, *supra* note 192, at B6 (quoting Ken Anderson, a retired mining engineer).

<sup>198</sup> *Hjelvik v. Babbit*, 198 F.3d 1072, 1074 (9th Cir. 1999) (quoting *United States v. Coleman*, 390 U.S. 599, 602 (1968)).

<sup>199</sup> DOI holds the position that any party with "title to or interest in land" may contest a mining claim, including the United States. *COGGINS ET AL.*, *supra* note 77, at 600–01.

*C. Mandatory Compliance with Environmental Laws*

Unpatented mining claim holders still must comply with environmental laws, as these constitute “laws of the United States” and do not violate any “rights” obtained under the Mining Law.<sup>200</sup> When challenged, courts have upheld this interpretation, assigning USFS a duty to “minimize environmental impacts.”<sup>201</sup> Forest Rangers have the authority to prohibit suction dredge activities in the Siskiyou National Forest if the activities violate environmental rules and regulations.<sup>202</sup> USFS’s own regulations ensure such compliance, requiring mineral exploration to comply with all state and federal water quality standards,<sup>203</sup> including those issued pursuant to the CWA.

*1. Clean Water Act Requirements*

In compliance with the Clean Water Act, a “law of the United States,” a federal mining permit cannot issue until the applicable state certifies that the federal permit complies with all applicable provisions of the CWA;<sup>204</sup> under section 402 of the CWA, miners must obtain a National Pollution Discharge Elimination System (NPDES) permit for any discharge from a point source into navigable waters, including those on federal lands.<sup>205</sup> Section 404 of the CWA prohibits discharges of dredged or fill material into navigable waters without a dredge and fill permit.<sup>206</sup> The CWA also requires that states

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<sup>200</sup> 30 U.S.C. § 26 (2006).

<sup>201</sup> See *Hells Canyon Pres. Council v. Haines*, CV. 05-1057-PK, slip op. at 12 (D. Or. Aug. 4, 2006).

<sup>202</sup> Multiple-Use Sustained-Yield Act of 1960, 16 U.S.C. §§ 528, 531(a) (2006) (authorizing USFS to manage national forests for multiple uses including “outdoor recreation, range, timber, watershed, and wildlife and fish purposes,” managed in a manner that “will best meet the needs of the American people”); *Friedland*, 152 F. Supp. 2d 1234, 1245 n.3 (D. Colo. 2001) (finding that the United States may regulate mining in national forests in order to protect surface resources).

<sup>203</sup> 36 C.F.R. § 228.8(b) (2009). The regulation also requires that, where feasible, all mining operations are conducted to “minimize adverse environmental impacts on National Forest resources.” *Id.* § 228.8.

<sup>204</sup> *Id.* § 1341(a)(1) (“Any applicant for a Federal license or permit to conduct any activity . . . which may result in any discharge into the navigable waters, shall provide the licensing or permitting agency a certification from the State . . . that any such discharge will comply with the applicable provision of the [CWA].”). Federal agencies are thereby prohibited from issuing federal licenses or permits until applicants have obtained certification from the state that discharges resulting from federally permitted activities will conform to the CWA’s permitting and water quality requirements. *Id.*

<sup>205</sup> See *id.* § 1342 (NPDES permit requirements). An NPDES permit is required for discharges of pollutants into the waters of the United States, issued by the Environmental Protection Agency. *Id.* § 1311(a) (prohibiting a discharge of a pollutant unless authorized by the Clean Water Act); *id.* § 1362(12) (defining discharge of a pollutant to be, in part, a discharge into navigable waters); *id.* § 1362(7) (defining “navigable waters” as “waters of the United States”); *id.* § 1251(d) (defining any reference in the chapter to Administrator to mean Administrator of the Environmental Protection Agency).

<sup>206</sup> *Id.* § 1344(a). Section 404 requires a permit to dredge or fill waters of the United States, issued by the Army Corps of Engineers. There is some debate as to whether suction dredge miners must obtain a 402 or 404 permit. See *Nw. Env’tl Defense Ctr. v. Env’tl Quality Comm’n*, 223 P.3d 1071, 1086 (Or. Ct. App. 2009). The Oregon Court of Appeals recently held that the

designate water quality standards under Section 303.<sup>207</sup> Miners must obtain state certification of compliance with these standards before USFS can permit the mining operation.<sup>208</sup> In litigation, USFS has admitted that suction dredge mining may result in discharges into navigable waters, thereby prompting CWA requirements.<sup>209</sup>

Prior to mining on any waters within the Siskiyou National Forest, miners must apply for the proper discharge permits under the CWA. Regrettably, permitting requirements for sections 402 and 404 do little to protect waters in the Siskiyou against suction dredge mining discharges. As a matter of law, if the state chooses to deny a suction dredge miner a CWA permit, the miner, even holding a valid unpatented claim under the Mining Law, cannot run a suction dredge.<sup>210</sup> In reality, a state may deny commercial dredgers an individual CWA permit, but most states issue small, recreational miners a “general” CWA permit upon application.<sup>211</sup> Once the miner obtains a permit, the CWA allows suction dredge miners to run their dredge in USFS waters, stirring up harmful mercury and displacing the riverbed, in full compliance with the CWA.<sup>212</sup> Although the CWA limits miners’ ability to freely run dredges within national forests and takes away USFS’s discretion to allow such activity without a state permit, the statute fails to actually protect waters within national forests from mercury pollution stirred up from recreational miners.

USFS may not issue permits for mining activities on waterways within the Siskiyou National Forest that the state lists as water-quality limited, if those mining operations will cause a detectable, measurable degradation of

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state’s 700-J Permit, an NPDES 402 permit for discharge from small suction dredge operations, exceeded the Department of Environmental Quality’s jurisdiction, since the permit did not indicate which discharges were covered by the permit. *Id.* The court outlined the EPA and Corps indecisive history regarding authority over suction dredge mining discharges. *Id.* at 1083–86. The Oregon Court held that small suction dredge mining discharges both dredge materials that are regulated by the Corps and turbid wastewater, regulated by the EPA. *Id.* at 1086.

<sup>207</sup> See 33 U.S.C. § 1313(c) (2006).

<sup>208</sup> *Hells Canyon Pres. Council v. Haines*, No. 05-1057-PK, 2006 WL 2252554, at \*7 (D. Or. Aug. 4, 2006) (prohibiting federal agencies from issuing federal licenses or permits until applicants have obtained certification that discharges from federally permitted activities will conform to the CWA’s permitting and water quality requirements).

<sup>209</sup> *Id.*

<sup>210</sup> See *Kinross Copper Corp. v. Oregon*, 981 P.2d 833, 840 (1999) (holding that a person with an unpatented mining claim never possessed “the ‘right’ to discharge mining wastes into the waters of the state,” and therefore the denial of a permit does not constitute a taking).

<sup>211</sup> See OR. DEP’T OF ENVTL QUALITY, GENERAL DISCHARGE PERMIT 1 (2005), available at <http://www.deq.state.or.us/WQ/wqpermit/docs/general/npdes700pm/permit.pdf> (mandating that small recreational suction dredge operations acquire a general NPDES permit). A general permit is issued to miners upon application and unlike individual permits, is not site specific. *Id.*

<sup>212</sup> Miners apply for a CWA permit through the state environmental office if the state is CWA certified. For example, Oregon’s Department of Environmental Quality requires miners to apply for a NPDES permit. Small suction dredges, using a nozzle diameter of no more than 6 inches, must only apply for a general NPDES permit. Larger dredges are considered commercial and must apply for an individual NPDES permit. See Or. Dep’t of Env’tl Quality, Water Quality Permit Program - Mining, <http://www.deq.state.or.us/WQ/wqpermit/mining.htm> (last visited Apr. 20, 2010).

the water quality and existing beneficial uses.<sup>213</sup> Since suction dredges discharge sediments, thereby creating unstable habitat for spawning salmon,<sup>214</sup> USFS should not permit any suction dredge mining operations on waters listed as water-quality limited for sedimentation or habitat degradation.

When challenged on its failure to require individual CWA certification prior to approving mining operations on the North Fork Burnt River watershed in Oregon, USFS claimed that mining operations would not discharge sediment significant enough to violate the water quality standards.<sup>215</sup> The court disagreed, finding USFS's assumption arbitrary and capricious.<sup>216</sup> Although USFS had to subsequently alter its plan or explain its reasoning, the court stopped short of prohibiting USFS from allowing suction dredge mining on waters listed for sedimentation, implying that USFS could allow mining as long as it provided reasoning for its decision on the record.<sup>217</sup> Currently, the Rogue and Illinois Rivers in the Oregon Siskiyou National Forest are not listed in violation of water quality standards for sedimentation due to "insufficient data."<sup>218</sup> However, the upcoming 2010 listing report may provide sufficient data to determine whether a sedimentation listing is warranted. If so, USFS should not allow suction dredge mining on such waters. Unfortunately, without such a sedimentation listing, miners can continue to degrade the waters of the Siskiyou without violating the CWA.

## 2. *The Endangered Species Act*

The Endangered Species Act requirements seemingly remove the broad discretion that USFS exercises when issuing suction dredge mining permits; however, the courts give great leniency to USFS, allowing it to avoid its ESA responsibilities. Section 7 of the ESA requires all federal agencies, including USFS, "to ensure that any action authorized, funded, or carried out by such agency is not likely to jeopardize the continued existence" of any endangered or threatened species or result in the destruction of critical habitats.<sup>219</sup> A "federal action" includes activities or programs of any kind authorized, funded, or carried out by federal agencies, including: granting of licenses, contracts, leases, easements, rights-of-way, permits, and actions causing modifications to the land, water, or air.<sup>220</sup> Section 7 applies to all agency actions "where there is discretionary federal involvement and

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<sup>213</sup> *Hells Canyon Pres. Council*, 2006 WL 2252554, at 9.

<sup>214</sup> See Harvey & Lisle, *supra* note 32, at 9–11.

<sup>215</sup> *Hells Canyon Preservation Council*, 2006 WL 2252554, at \*5.

<sup>216</sup> *Id.*

<sup>217</sup> *Id.* at \*6.

<sup>218</sup> Or. Dep't of Env'tl Quality, Water Quality Assessment—Oregon's 2004/2006 Integrated Report Database, <http://www.deq.state.or.us/wq/assessment/rpt0406/search.asp#db> (last visited July 11, 2010) (select the proper water body, either Rogue or Illinois River, and parameter, sedimentation, then click "search").

<sup>219</sup> 16 U.S.C. § 1536(a)(2).

<sup>220</sup> 50 C.F.R. § 402.02 (2009). Federal actions may also include actions intended to conserve listed species or their habitats and the promulgation of regulations. *Id.*

control.”<sup>221</sup> If USFS determines a proposed action “may affect” an endangered or threatened species, the agency must formally consult with the Fish and Wildlife Service or the National Marine Fisheries Service (NMFS), depending on the type of species affected.<sup>222</sup>

The Northern California/Southern Oregon Coho salmon (*Oncorhynchus kisutch*) is listed as threatened; the fish spawns in waters located within both California and Oregon’s national forests.<sup>223</sup> While not listed under the ESA, certain steelhead (*Oncorhynchus mykiss*) runs within the region “remain severely depressed” and at an “appreciable risk” of extinction.<sup>224</sup> Both species spawn within the waters of Siskiyou County, encompassing the Siskiyou National Forest.<sup>225</sup> As detailed in Section II, suction dredge mining adversely affects fish redds, larvae, and fry.<sup>226</sup> The suction dredge discharges tailings, creating an unstable spawning habitat for breeding fish.<sup>227</sup> When salmon enter the rivers to spawn, they lay eggs in the same rivers where suction dredge mining occurs.<sup>228</sup> Salmon species die after spawning; in order for the species to continue and thrive, the redds of fish eggs must hatch and mature to continue the life cycle.<sup>229</sup> Thus, miners running suction dredges can “jeopardize the continued existence” of listed species.<sup>230</sup>

Since USFS remains responsible for approving mining operations in national forests, it should consult with NMFS<sup>231</sup> prior to granting miners approval to run dredges, to ensure that the mining activity does not jeopardize a listed species. Unfortunately, USFS dodges its responsibility with the full support of the courts. The Karuk Tribe of California sued USFS for its failure to comply with its ESA duties.<sup>232</sup> The Plaintiffs argued that USFS’s review of a notice of intent to engage in suction dredge mining constitutes an “authorization” of the mining operation and thus is a “federal

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<sup>221</sup> *Id.* § 402.03.

<sup>222</sup> *See* Pacific Rivers Council v. Thomas, 30 F.3d 1050, 1054 n.8 (9th Cir. 1994).

<sup>223</sup> Endangered and Threatened Species; Final Listing Determinations; Final Rules and Proposed Rules, 70 Fed. Reg. 37,160, 37,170–71 (June 28, 2005) (codified at 50 C.F.R. pts. 223 and 224).

<sup>224</sup> Endangered and Threatened Species: Final Listing Determination for Klamath Mountains Province Steelhead, 66 Fed. Reg. 17,845, 17,851 (April 4, 2001) (status review of regional steelhead runs).

<sup>225</sup> *See* U.S. Fish & Wildlife Serv., Species Profile, U.S. Counties in Which the Coho Species is Known to Occur, <http://ecos.fws.gov/speciesProfile/profile/countiesBySpecies.action?entityId=6578> (last visited July 11, 2010).

<sup>226</sup> *See* discussion *supra* Part II.B.2.

<sup>227</sup> *See* discussion *supra* Part II.B.2.

<sup>228</sup> *See* discussion *supra* Part II.B.2.

<sup>229</sup> *See* 70 Fed. Reg. at 37,161.

<sup>230</sup> 16 U.S.C. § 1536(a)(2). Suction dredge mining also alters the spawning salmon and steelhead habitat. Harvey & Lisle, *supra* note 32, at 9–11. Regardless of whether this habitat was designated “critical habitat” by NMFS, many agency biologists “believe that in almost all cases, jeopardy will in fact be found if key habitat is modified, whether or not it is formally designated as ‘critical.’” COGGINS ET AL., *supra* note 77, at 292.

<sup>231</sup> NMFS has jurisdiction over most marine and anadromous fish listed under the ESA. JOHNSTON ET AL., LEGAL PROTECTION OF THE ENVIRONMENT 602 (2005). Anadromous fish such as salmon and steelhead that live in both fresh and salt water fall under NMFS jurisdiction. *Id.*

<sup>232</sup> *See* Karuk Tribe of Cal. v. U.S. Forest Serv., 379 F. Supp. 2d 1071 (N.D. Cal. 2005).

action” within the meaning of the ESA.<sup>233</sup> The court disagreed, holding that only when USFS approves a plan of operation (required when the mining activity constitutes a “significant disturbance”),<sup>234</sup> does USFS’s approval constitute a “federal action” triggering the ESA.<sup>235</sup> The court found that a notice of intent to engage in mining is not a “permit” that is “authorized” by USFS.<sup>236</sup> Furthermore, the court declined to find that the “discretionary” nature of USFS’s implementation of a notice of intent invokes the ESA.<sup>237</sup> It reasoned that since the Mining Law confers a statutory “right” upon miners to enter public lands for the purpose of mining and prospecting, the notice of intent does not actually grant a permissive license, contract, lease, or permit.<sup>238</sup>

As a result of the court’s interpretation of the Mining Law, recreational suction dredge miners who submit a notice of intent may disrupt endangered and threatened Coho and steelhead habitat without ever triggering ESA review under section 7 by USFS. However, this issue may face future challenge. The court determined that a review of a notice of intent to mine is not a “federal action” because it does not approve or deny “significant disturbances to surface resources.”<sup>239</sup> The court left the door open for a challenge when mining activities cause a “significant disturbance”; USFS’s approval or denial should then be considered a “federal action” triggering the ESA.<sup>240</sup> Although USFS persists in denying that recreational suction dredging causes a “significant disturbance,” the scientific data disproves USFS’s assumption.<sup>241</sup> Furthermore, the California legislature’s recent recognition of the significantly destructive nature of suction dredging adds credibility to future arguments.<sup>242</sup> If USFS, through voluntary or court ordered action, correctly requires suction dredge miners to submit a plan of operation, the agency will trigger section 7 of the ESA,<sup>243</sup> adding appropriate protections to threatened aquatic species.<sup>244</sup>

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<sup>233</sup> *Id.* at 1100.

<sup>234</sup> See discussion *supra* Part III.C.

<sup>235</sup> *Karuk Tribe of Cal.*, 379 F. Supp. 2d at 1100–03.

<sup>236</sup> *Id.* at 1103.

<sup>237</sup> *Id.* at 1101.

<sup>238</sup> *Id.*

<sup>239</sup> 36 C.F.R. § 228.4(a)(2) (2009). When USFS approves a plan of operation, as opposed to a notice of intent, its approval is an “action” to which the ESA applies. *Baker v. U.S. Dep’t of Agric.*, 928 F. Supp. 1513, 1518 (D. Idaho 1996).

<sup>240</sup> *Karuk Tribe of Cal.*, 379 F. Supp. 2d at 1101.

<sup>241</sup> *Siskiyou Reg’l Educ. Project*, 565 F.3d 545, 552–53 (9th Cir. 2009) (finding permissive USFS’s determination that a plan of operation is only required for activities that significantly disturb surface resources. The agency concluded that only a notice of intent was needed for suction dredge mining operations, since they do not meet constitute a “significant disturbance”).

<sup>242</sup> CAL. FISH & GAME CODE § 5653 (West 2010 Supp.).

<sup>243</sup> Alternatively, section 9 may apply which prohibits “taking” of a listed species by anyone, including individuals and government agencies. 16 U.S.C. § 1538. “Take” includes direct harms to endangered species, as well as indirect harms such as habitat modification under certain circumstances. *Id.* at § 1532(19). Compare *Palila v. Haw. Dep’t of Land and Natural Res.*, 471 F. Supp. 985, 994–95 (1979) (holding that the state agency violated section 9 by preventing the regeneration of trees on which an endangered species depended, thereby dooming the species viability), with *Babbitt v. Sweet Home*, 515 U.S. 687, 708 (1995) (holding that the

Even if USFS began protecting listed salmon and steelhead against suction dredge miners under the ESA, unlisted salmon and steelhead inside the Siskiyou still require future protections. The Siskiyou and Rogue River areas are home and breeding grounds for wild salmon and steelhead.<sup>245</sup> These species “are the quintessential icon of the Pacific Northwest with significant cultural and economic value.”<sup>246</sup> Providing a healthy habitat for these species remains necessary to sustain the fishing economy and preserve this Northwest icon.<sup>247</sup> All sections of the Siskiyou National Forest should ban suction dredge mining to help preserve and increase declining salmon and steelhead populations. Though suction dredge mining is not the only cause of salmon decline,<sup>248</sup> this pastime does contribute to the species’s demise and should not continue unchecked within national forests.

#### V. FUTURE OF THE SISKIYOU NATIONAL FOREST

Although neither the courts’ nor USFS’s past stances on suction dredge mining within the Siskiyou National Forest provide hope for banning the destructive hobby, environmental groups, citizens, and local governments within the Pacific Northwest continue to fight to end these operations.<sup>249</sup> Possible relief from the suction dredge’s harm may arrive in the form of an amendment to the outdated Mining Law, extended Wilderness Designation in the Siskiyou, or a reinstatement of Clinton’s proposed Mineral Withdrawal in Oregon’s Siskiyou Wild Rivers.<sup>250</sup> Such actions may narrow USFS’s discretion, limiting its ability to allow suction dredging to occur with only a notice of intent. Finally, USFS may follow the example set by California,

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Secretary was reasonable in defining “harm” to include “significant habitat modifications or degradation that actually kills or injures wildlife” by altering essential behavior patterns). Although scientific studies reveal miners suck salmon eggs in their suction dredges, proving a charge of “take” against each individual miner would prove costly and require direct evidence that would be difficult to obtain. Similarly, proving miners commit an indirect take by creating unstable conditions may prove difficult, due to the high bar the Court set in *Sweet Home*.

<sup>244</sup> See *Karuk Tribe of Cal.*, 379 F. Supp. 2d at 1100.

<sup>245</sup> TED. L. HELVOIGT & DIANE CHARLTON, *THE ECONOMIC VALUE OF ROGUE RIVER SALMON* 1–2 (2009), available at <http://www.americanrivers.org/assets/pdfs/wild-and-scenic-rivers/the-economic-value-of-rogue.pdf>.

<sup>246</sup> *Id.* at 1.

<sup>247</sup> See *id.* at 1–2.

<sup>248</sup> *Id.* at 5.

<sup>249</sup> See Associated Press, *Oregon Governor Asks for Mineral Withdrawal*, ICMJ PROSPECTING AND MINING J., Nov. 2009, [http://www.icmj.com/article.php?id=628&keywords=Oregon\\_Governor\\_Asked\\_For\\_Mineral\\_Withdrawal](http://www.icmj.com/article.php?id=628&keywords=Oregon_Governor_Asked_For_Mineral_Withdrawal) (last visited July 11, 2010) (expressing concern that suction dredge miners are moving into Oregon); Klamath-Siskiyou Wildlands Center, *Suction Dredge Miners Zeroing in on So. Oregon Rivers – Please Send a Quick Auto Letter to DEQ*, <http://kswild.org/take-action/suction-dredge-miners-zeroing-in-on-so.-oregon-rivers-please-send-a-quick-auto-letter-to-deq/?searchterm=suction> (last visited July 11, 2010) (inviting concerned citizens to write letters to Oregon DEQ, asking for greater protections against suction dredge mining); Siskiyou Project, *Voice of the Wild Siskiyou*, Summer 2008, at 10, available at <http://www.siskiyou.org/Newsletters/Summer2008.pdf> (issuing a “watch” statement against dredging within the Siskiyou).

<sup>250</sup> See *infra* Part V.A–V.B.

acknowledging the significant impact of suction dredge mining and requiring a plan of operation from all miners.

*A. The Hardrock Mining and Reclamation Act of 2009*

Advocacy groups and state legislators have urged Congress to amend or revise the outdated Mining Law.<sup>251</sup> The law was enacted by the United States to promote mineral exploration and western settlement, by encouraging prospecting and conveying a “right” to locate mineral claims on federal lands.<sup>252</sup> The outdated law presently allows miners to exploit federal lands that no longer require settlement or mineral exploration.<sup>253</sup> Though Congress has temporarily stopped BLM from issuing patents by imposing a renewable one-year moratorium beginning in 1994, the Mining Law itself permits claimants to obtain fee simple title to both land and minerals by patenting them for \$2.50 or \$5.00 an acre.<sup>254</sup> Senator Bingaman from New Mexico proposed to amend the Mining Law with The Hardrock Mining and Reclamation Act of 2009,<sup>255</sup> which proposes to revise many of the key provisions of the Mining Law.<sup>256</sup> In addition, the Obama Administration has indicated its interest in reforming and modernizing the Mining Law.<sup>257</sup>

The Hardrock Mining and Reclamation Act of 2009 proposes many positive changes to mining, impacting adverse practices beyond suction dredge mining. Highlights include royalty requirements, permit requirements, land use fees, and creation of a uniform standard for operation and reclamation on USFS lands.<sup>258</sup> While none of these provisions invalidate the “right” to mine under the Mining Law, requiring suction dredge miners to pay royalties and land use fees may deter miners from engaging in destructive suction dredging in farfetched hopes of striking it rich. The “Land Open to Location” provision of the bill<sup>259</sup> offers hope to advocates against suction dredge mining within the Siskiyou National Forest. If enacted, federal land managers would be required to review specified categories of lands for possible withdrawal from operation of the Mining

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<sup>251</sup> See U.S. GEN. ACCOUNTING OFFICE, FEDERAL LAND MANAGEMENT: THE MINING LAW OF 1872 NEEDS REVISION 3–4 (1989); Hardrock Mining and Reclamation Act of 2007, H.R. 2262, 110th Cong. (2007).

<sup>252</sup> GORDON MORRIS BAKKEN, THE MINING LAW OF 1872 PAST, POLITICS, AND PROSPECTS 8–10 (2008).

<sup>253</sup> See THE PEW CHARITABLE TRUSTS, S. 769, THE HARDROCK MINING AND RECLAMATION ACT: PROTECTING TAXPAYERS AND THE ENVIRONMENT (2009), available at [http://www.pewminingreform.org/pdf/2009-4-17\\_Bingaman\\_intro.pdf](http://www.pewminingreform.org/pdf/2009-4-17_Bingaman_intro.pdf).

<sup>254</sup> U.S. GEN. ACCOUNTING OFFICE, *supra* note 252, at 2.

<sup>255</sup> Hardrock Mining and Reclamation Act of 2009, S. 796, 111th Cong. (2009).

<sup>256</sup> See U.S. SENATE COMM. ON ENERGY & NATURAL RES., THE HARDROCK MINING AND RECLAMATION ACT OF 2009 SUMMARY (2009), available at [http://energy.senate.gov/public/\\_files/Summaryshortapril12009.pdf](http://energy.senate.gov/public/_files/Summaryshortapril12009.pdf).

<sup>257</sup> See *The Hardrock Mining and Reclamation Act of 2009 and the Abandoned Mine Reclamation Act of 2009: Hearing on S. 140 and S. 769 Before the Senate Committee on Energy and Natural Resources*, 111th Cong. (2009) (statement of Ken Salazar, Secretary of the Interior).

<sup>258</sup> *Id.*

<sup>259</sup> Hardrock Mining and Reclamation Act of 2009, S. 769, 111th Cong. § 307 (2009).

Law, subject to valid existing rights.<sup>260</sup> The review would include designated wilderness study areas and National Forest System land identified as suitable for wilderness designation, areas of critical environmental concern, federal land in which mineral activities pose a reasonable likelihood of substantial adverse impacts on National Conservation System units as defined in the bill, certain areas with potential for inclusion in the Wild and Scenic Rivers System as specified, and specific areas identified by USFS in the set of inventoried roadless areas.<sup>261</sup> The Siskiyou National Forest contains 324,000 acres of designated wilderness and over 200 miles of designated “National Wild and Scenic Rivers.”<sup>262</sup> These areas would qualify for the Secretary’s review for withdrawal and would certainly provide possibilities for subsequent litigation if the Secretary fails to ban mining in these areas. Reform to the Mining Law, however, is not a new proposal. Historically, both the mining industry and environmentalists have rallied for changes that would benefit their interests.<sup>263</sup> In the 1970s both the Nixon and Carter Administrations supported mining reform, though efforts failed due to congressional divide.<sup>264</sup> At the end of the Clinton Administration, mining reform bills passed both houses of Congress, but eventually died due to Congress’s inability to reconcile some disagreements.<sup>265</sup> Subsequently, the Bush Administration pledged support for hardrock mining reform, but failed to make such change a legislative priority.<sup>266</sup> Perhaps the support of President Obama and Secretary Salazar will move the Hardrock Mining and Reclamation Act of 2009 into law, though past attempts provide a basis for skepticism.

### B. Wilderness Designation

The designation of more wilderness area within the Siskiyou National Forest restricts the establishment of future mining claims within these areas. Congress passed the Wilderness Act<sup>267</sup> in 1964 to preserve the nation’s wild lands and “secure for the American people of present and future generations the benefits of an enduring resource of wilderness.”<sup>268</sup> Although the

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<sup>260</sup> See THE HARDROCK MINING AND RECLAMATION ACT OF 2009 SUMMARY, *supra* note 257, at 2; see also THE PEW CHARITABLE TRUSTS, *supra* note 254, at 2.

<sup>261</sup> See THE HARDROCK MINING AND RECLAMATION ACT OF 2009 SUMMARY, *supra* note 257, at 2.

<sup>262</sup> See U.S. Forest Serv., *supra* note 3.

<sup>263</sup> COGGINS ET AL., *supra* note 77, at 617–18.

<sup>264</sup> *Id.*

<sup>265</sup> *Id.* at 618.

<sup>266</sup> *Id.*

<sup>267</sup> 16 U.S.C. §§ 1131–1136 (2006).

<sup>268</sup> *Id.* at § 1131(a). The Wilderness Act defines wilderness as

in contrast with those areas where man and his own works dominate the landscape, is hereby recognized as an area where the earth and its community of life are untrammelled by man, where man himself is a visitor who does not remain . . . an area of underdeveloped Federal land retaining its primeval character and influence, without permanent improvements or human habitation, which is protected and managed so as to preserve its natural conditions and which (1) generally appears to have been affected

Wilderness Act did not ban all mining, Congress enacted a twenty-year gradual phase-out of mineral rights in wilderness areas.<sup>269</sup> Miners whose claims predate the passage of the Wilderness Act faced no new restrictions on their mineral rights. Prospectors had twenty years, ending in 1983, to prospect for and locate new mining claims within wilderness areas.<sup>270</sup> After 1983, miners could not establish new mining claims in wilderness areas.<sup>271</sup> Presently, very little mining activity occurs within designated wilderness areas.<sup>272</sup>

Most of the wilderness designations within the Siskiyou National Forest are within California; only thirteen percent of Oregon's sixteen million acres of national forest is designated as wilderness area.<sup>273</sup> Oregon's lack of wilderness designation is especially problematic since California's moratorium has prompted miners to move from California to Oregon.<sup>274</sup> Groups such as the New 49'ers specifically target Oregon's Rogue River as a replacement for California's restricted waters.<sup>275</sup> Both conservation groups and Oregon's elected officials hope to merge Oregon's three wilderness areas—the Kalmiopsis, Wild Rogue and Copper Salmon—and other areas within the Siskiyou National Forest, to create one large wilderness area protected from new mining claims.<sup>276</sup> In 2008, Governor Kulongoski responded to the Siskiyou Wild River Campaign's request<sup>277</sup> to help establish these wilderness areas.<sup>278</sup> In response to growing concern that "suction dredge miners are now heading for Oregon," both Oregon's Governor,<sup>279</sup> and

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primarily by the forces of nature, with the imprint of man's work substantially unnoticeable; (2) has outstanding opportunities for solitude or a primitive and unconfined type of recreation; (3) has at least five thousand acres of land or is of sufficient size as to make practicable its preservation and use in an unimpaired condition; and (4) may also contain ecological, geological, or other features of scientific, educational, scenic, or historical value.

*Id.* at §1131(c). Wilderness refers to "untrammelled" rather than undisturbed land, so as not to exclude areas previously altered by mining, grazing, or other uses. COGGINS ET AL., *supra* note 77, at 1013.

<sup>269</sup> 16 U.S.C. § 1133(d)(3) (2006).

<sup>270</sup> *Id.*

<sup>271</sup> *Id.*

<sup>272</sup> COGGINS ET AL., *supra* note 77, at 1040–41.

<sup>273</sup> See Oregon Wild, Wilderness, <http://www.oregonwild.org/wilderness> (last visited July 11, 2010) (expressing hope that Congress will designate five million acres of roadless area in Oregon as wilderness).

<sup>274</sup> See Associated Press, *supra* note 249.

<sup>275</sup> See New 49'ers Club, New 49'ers Discover High-grade Gold Dredging on the Rogue River in Southern Oregon!, [http://www.goldgold.com/rogue\\_dredging.htm](http://www.goldgold.com/rogue_dredging.htm) (last visited July 11, 2010) (boasting new mining opportunities in Southern Oregon).

<sup>276</sup> Associated Press, *supra* note 249.

<sup>277</sup> See Letter from Siskiyou Wild Rivers Campaign to Ron Wyden, Senator, U.S. Senate, Jeff Merkley, Senator, U.S. Senate, Peter DeFazio, Representative, U.S. House of Representatives, and Theodore Kulongoski, Governor, Or. (Aug. 15, 2009), available at [http://www.oregonwild.org/wilderness/oregons-yellowstone/Siskiyou\\_Wild\\_Rivers\\_Mining\\_Letter.pdf](http://www.oregonwild.org/wilderness/oregons-yellowstone/Siskiyou_Wild_Rivers_Mining_Letter.pdf).

<sup>278</sup> See Letter from Theodore R. Kulongoski, Governor, Or., to Tom Vilsack, Sec'y of Agric. (Oct. 15, 2009), available at [http://www.oregonwild.org/wilderness/oregons-yellowstone/Kulongoski\\_Vilsack\\_mining\\_Siskiyou.pdf](http://www.oregonwild.org/wilderness/oregons-yellowstone/Kulongoski_Vilsack_mining_Siskiyou.pdf).

<sup>279</sup> *Id.*

separately Senator Merkley, Senator Wyden, and Representative DeFazio, wrote the Secretary of the Interior and Secretary of Agriculture in 2009, asking for reinstatement of a 2001 Clinton Administration proposed mineral withdrawal of the Siskiyou Wild Rivers area.<sup>280</sup> Clinton's withdrawal, which was subsequently cancelled by the Bush Administration,<sup>281</sup> stated:

The purpose of the proposed withdrawal is to protect the nationally significant ecologic and biologic diversity of the Siskiyou Wild Rivers area which also contains outstanding scenic and recreation values, and special status plant and animal species and their habitats while it is determined whether special species management designation for the area is warranted and to assess the view of the public on such a designation.<sup>282</sup>

If granted, the mineral withdrawal<sup>283</sup> would stop miners from establishing new claims in the region, giving Congress time to contemplate requests for new wilderness designation.<sup>284</sup> If successful, both the mineral withdrawal and wilderness designation will protect the region from suction dredge mining and limit USFS's discretion in allowing miners to enter the area.

## VI. CONCLUSION

Suction dredge mining undeniably causes adverse environmental impacts. Even under the existing Mining Law, USFS may exercise the broad discretion the courts and Congress granted it to prohibit the use of suction dredges within national forests. Minimally, USFS should require a plan of operation from each miner entering national forests to suction dredge, since all recreational dredges cause a significant disturbance to the designated riparian reserve. A ban on suction dredge mining still allows miners to search for the golden dream, working valid claims through reasonable, less destructive means such as panning. USFS must act more responsibly as a steward of our nation's federal lands, offering full species and land protection.

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<sup>280</sup> See Letter from Ron Wyden, Senator, U.S. Senate, Jeff Merkley, Senator, U.S. Senate, and Peter DeFazio, Representative, U.S. House of Representatives to Ken Salazar, Sec'y of the Interior, and Tom Vilsack, Sec'y of Agric., U.S. (Nov. 12, 2009), *available at* [http://www.oregonwild.org/wilderness/oregonsyellowstone/Congressional\\_Mining\\_Letter\\_Nov\\_2009.pdf](http://www.oregonwild.org/wilderness/oregonsyellowstone/Congressional_Mining_Letter_Nov_2009.pdf).

<sup>281</sup> Cancellation of Proposed Withdrawal, and Notice of Proposed Withdrawal and Opportunity for a Public Meeting; California and Oregon, 67 Fed. Reg. 35,830, 35,830 (May 21, 2002).

<sup>282</sup> Notice of Proposed Withdrawal; Oregon and California, 66 Fed. Reg. 6664, 6664 (Jan. 22, 2001).

<sup>283</sup> "[A] 'withdrawal' is a generic term referring to a statute, an executive order, or an administrative order that changes the designation of a described parcel of federal land from 'available' to 'unavailable' for certain kinds of activities," such as mining. COGGINS ET AL., *supra* note 77, at 416. FLPMA establishes a detailed withdrawal procedure for Department of the Interior and USFS lands. See 43 U.S.C. § 1714 (2006).

<sup>284</sup> Notice of Proposed Withdrawal; Oregon and California, 66 Fed. Reg. at 6664.

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*SUCTION DREDGE MINING*

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The hum of three thousand suction dredge miners failed to drown out the voices of activists throughout the Pacific Northwest, dedicated to protecting the Siskiyou National Forest. Though past litigation proved unsuccessful in banning suction dredge mining in the national forest, California's ban on suction dredge mining and Governor Kulongoski's letters in support of more protection for the Siskiyou offer activists encouragement and suggest that policy may change the golden landscape of mining in the Northwest.