COMMISSIONER'S DECISION ON REQUEST FOR RECONSIDERATION OF THE OCTOBER 24, 2011 DETAILED STATEMENT OF FINDINGS AND DECISION ON PETITION REQUESTING THAT THE ANADROMOUS STREAMS AND ASSOCIATED RIPARIAN AREAS IN THE CHUITNA RIVER WATERSHED BE DESIGNATED AS LANDS UNSUITABLE FOR ALL TYPES OF SURFACE COAL MINING OPERATIONS

State of Alaska
Department of Natural Resources
Office of the Commissioner
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PART I. SUMMARY AND BACKGROUND OF THE COMMISSIONER'S DECISION ON RECONSIDERATION

2010 Petition

On January 21, 2010, Trustees for Alaska (Trustees), on behalf of two organizations, submitted a petition (referenced herein as the "petition," or where context is required, the "2010 Petition") to the Commissioner of the Department of Natural Resources (DNR or Department), requesting that certain lands within the Chuitna River[1] watershed (Chuitna watershed) be designated unsuitable for all types of surface coal mining operations. Trustees submitted the petition on behalf of the Chuitna Citizens Coalition and Cook InletKeeper. Both groups are collectively referenced herein as petitioners.

The 2010 Petition was one in a continuing series of attempts dating back to the 1980s to prohibit surface coal mining operations in the Chuitna watershed. More recently, this was the second time in three years that petitioners filed a petition requesting that DNR find the Chuitna watershed unsuitable for surface coal mining operations. In the 2007 Petition, these petitioners alleged that reclamation was not technologically feasible; the petition was litigated, and the appeal was eventually dismissed with prejudice.

The 2010 Petition raised many of the same arguments and read much like the 2007 Petition. More specifically, the 2010 Petition requested that streambeds underlying anadromous water bodies and their associated riparian areas within the Chuitna watershed be designated unsuitable for surface coal mining.

The 2010 Petition was based on the Alaska Surface Coal Mining Control and Reclamation Act (ASCMCRA),[2] which authorizes the Commissioner to designate state lands as off-limits for all surface coal mining operations if scientifically sound data and information justifies a finding that state lands are unsuitable for surface coal mining operations. The State of Alaska has never granted a "lands unsuitable" petition. The result of granting such a petition for the Chuitna watershed would be that the petition area would be preemptively closed for all surface coal mining

[1] The river is also commonly referred to, including by petitioners, as the Chuit River.
[2] AS 27.21.010, *et seq.*

operations. Thus, entities with a property interest in the land would be precluded from even applying for a permit to mine coal from the Chuitna watershed.

For that reason, three different entities -- Alaska Mental Health Trust Land Office, Tyonek Native Corporation, and PacRim Coal, LP (intervenors) -- intervened to protect their property interests and requested that DNR deny the 2010 Petition, which, if granted, would have had substantial negative impacts on potential economic developments in the region. Tyonek Native Corporation (TNC) explained that it opposed the 2010 Petition because the petition "seeks to end most development of the coal reserves in the region where TNC's lands are located and mostly TNC shareholders reside. Such a determination would frustrate TNC's efforts to increase local employment opportunities for its shareholders, who are the Native people and the majority of the population of the region. Developing the region's substantial coal resources is critical to economic growth."

Similarly, Alaska Mental Health Trust Land Office (TLO), which is a state corporation that administers the Alaska Mental Health Trust for the benefit of individuals with mental illness, developmental disabilities, chronic alcoholism and Alzheimer's disease and related dementia,[3] stated: "The Trust is the predominant landowner within the Chuitna River Watershed, and lessor of the coal resources located within the areas subject to the petition. As the owner of the coal resources proposed for development pursuant to the existing coal leases held by PacRim Coal, LP (PRC) in the subject area, The Trust has a significant stake in the outcome of the petition proceeding. . . . To allow [the petition] to go forward would significantly affect the ability of The Trust and its lessee to develop this resource and would result in a major negative economic impact to The Trust and its beneficiaries." TLO took this position because it is obliged to manage the Trust's assets for the "maximization of long-term revenue from trust land," "protection and enhancement of the long-term productivity of trust land," and "encouragement of a diversity of revenue-producing uses of trust land."[4]

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[3] http://www.mhtrust.org/layouts/mhtrust/files/documents/about_aboutdocs/Trust_Overview_update2011.pdf.

[4] 11 AAC 90.020(c).

The Petition Process, Standards for Reviewing Petitions, and Other Applicable Authorities

ASCMCRA[5] authorizes the Commissioner to determine if certain lands are unsuitable for surface coal mining operations.[6] Under ASCMCRA, a person or a municipality adversely affected by potential surface coal mining operations may file a petition asking the Commissioner to designate lands unsuitable for mining.[7] A petition "must contain allegations of facts with supporting evidence that would tend to establish the allegations."[8]

Because ASCMCRA is modeled after the federal program established under the Surface Mining Control and Reclamation Act of 1977 (SMCRA),[9] both congressional and federal regulatory commentary on the federal act informs the petition review process. In discussing Section 522(a) of SMCRA,[10] the House Committee on Interior and Insular Affairs stated that the petition process "is structured to be applied on an area basis, rather than a site-by-site determination, which presents issues more appropriately addressed in the permit application process."[11] The committee also stated that the petition process, whether administered by a federal or state regulatory authority, "does not require the designation of areas as unsuitable for surface mining" unless "it is demonstrated that reclamation of an area is not physically or economically feasible under the standards of the act. The other criteria for designation … are discretionary."[12]

In considering a lands unsuitable petition under state law, the Commissioner "shall use competent and scientifically sound data and information in order to make objective decisions as to which areas of land are unsuitable for all or certain types of surface coal operations."[13] Such decisions shall also include consideration of "the

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5 AS 27.21.010, *et seq*.
6 AS 27.21.260(a).
7 AS 27.21.260(b).
8 *Id*.
9 ASCMCRA, the state counterpart to SMCRA, was enacted in 1982. Ch. 29, § 1, SLA 1982. The State of Alaska subsequently obtained federal approval in 1983 to exercise exclusive jurisdiction over surface coal mining and reclamation under ASCMCRA, which act is based on its federal counterpart, SMCRA, 30 U.S.C. §§ 1201-1328.
10 30 U.S.C. § 1272.
11 House Committee Report No. 95-218 (1977), at 630.
12 *Id*.
13 AS 27.21.260(a).

planning activities of federal, state, and municipal governments."[14] The petition decision shall "use a data base and inventory system that will permit the evaluation of areas of the state to support and permit reclamation for surface coal mining operations."[15] In reaching a decision on a petition, the Commissioner will use (1) relevant information from the data base and inventory system, (2) relevant information and analysis submitted during the comment period, and (3) relevant information provided by other governmental entities.[16] The Commissioner shall include a statement of reasons for the Commissioner's decision.[17]

Before designating an area as unsuitable, the Commissioner shall prepare "a detailed statement of potential coal resources in the area, the demand for coal resources, and the impact of the designation on the environment, the economy, and the supply of coal."[18] Any potential designation must consider "present and future land use planning and regulation processes at the federal, state, and local levels."[19] In response to a petition, the Commissioner may determine to designate the entire petition area unsuitable for all or certain types of surface coal mining operations, designate only certain portions of the petition area as unsuitable for all or certain types of surface coal mining operations, deny the petition in its entirety, or direct that future permits issued in the petition area "contain specific requirements for mitigating the impact of operations on the feature that was the subject of the petition."[20]

Federal and state coal mining laws provide a plan for assuring that surface coal mining will be conducted in such a manner as to minimize the adverse impact of coal mining, while assuring the nation an adequate supply of coal.[21] These laws and their attendant regulations contain requirements regarding contemporary coal mining practices, including "performance standards" for mine operations and reclamation.[22]

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[14] AS 27.21.260(a)(1).
[15] AS 27.21.260(a)(2).
[16] 11 AAC 90.711(a).
[17] 11 AAC 90.711(b).
[18] AS 27.21.260(e).
[19] AS 27.21.260(f).
[20] AS 27.21.260(c); 11 AAC 90.711(c).
[21] *See, e.g., Prager v. Hodel*, 793 F.2d 730 (5th Cir. 1986), *cert. den.* 479 U.S. 988 (1986).
[22] Performance standards provide a basic level of compliance during coal mining and reclamation. *See generally* 11 AAC 90.301 – 90.501. These standards ensure that the environment and the public are protected during mining by requiring avoidance and mitigation

What is critical to underscore is that a petition requesting that lands be designated as unsuitable for surface coal mining operations must assume "that contemporary mining practices required under AS 27.21 and this chapter would be followed if the area were mined."[23] These practices include the performance standards provided at 11 AAC 90.301 – 90.501. Thus, any mine would have to meet the requirements of the state and federal law and a petitioner may not assume mining impacts will occur that would be prevented by the environmental protection requirements mandated by such laws and other state regulations.[24] Indeed, the federal Office of Surface Mining (OSM) has stated that a petition that simply assumes non-compliance with state law is meritless.[25]

Also embedded in SMCRA and ASCMCRA is the recognition that coal mining *will* significantly impact an area.[26] Indeed, state and federal law authorize surface coal mining despite its effects on the environment. Both Congress and the Alaska Legislature, in respectively enacting SMCRA and ASCMCRA, anticipated that impacts will necessarily occur during construction and coal mining. The provisions contained in SMCRA and ASCMCRA also recognize that coal mining will have adverse impacts to surface and groundwater within the disturbed mining area and that a balancing of responsible resource development and environmental protection is necessary.[27]

Beyond the statutes and regulations specifically dealing with the petition process, the review of a petition includes consideration of ASCMCRA's primary purposes. These include, but are not limited to, the following:

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of impacts, and the requirement that all land disturbed by mining is restored to a productive postmining land use. *Alaska Coal Mining and the Law* (DNR, March 2007).

[23] 11 AAC 90.701(a)(5). *See also* AS 27.21.210 (stating that all permits issued under the Act shall require that surface coal mining and reclamation must comply with environmental performance standards). The federal Office of Surface Mining (OSM) has also stated that a petitioner "must assume that contemporary mining practices required under the applicable regulatory program will be followed." 48 Fed. Reg. 41312, 41328-29 (Sept. 14, 1983). *Accord In re Permanent Surface Mining Regulation Litigation*, 620 F. Supp. 1519 (D.D.C. 1985).

[24] 48 Fed. Reg. at 41328-29.

[25] *Id.*

[26] 30 U.S.C. § 1202; AS 27.21.010.

[27] 30 U.S.C. § 1202; AS 27.21.010.

- assuring "that surface coal mining operations are conducted in a manner that will prevent unreasonable degradation of land and water resources;"[28]
- assuring "that surface coal mining operations are not conducted where reclamation required by this chapter and the regulations adopted under it is not feasible;"[29]
- assuring "that reclamation of land on which surface coal mining takes place is accomplished as contemporaneously as practicable with the surface coal mining, recognizing that the responsible extraction of coal by responsible mining operators is an essential and beneficial economic activity;"[30]
- assuring "that the coal supply essential to the nation's energy requirements and to its economic and social well-being is provided and to strike a balance between protection of the environment and other uses of the land and the need for coal as an essential source of energy."[31]

Additionally, a critical component of DNR's mandate, which has been promulgated by the Alaska Legislature and is derived from the Alaska Constitution, is to allow responsible resource development. This duty flows from article VIII of the Alaska Constitution. Section 1 states that "[i]t is the policy of the State to encourage the settlement of its land and the development of its resources by making them available for the maximum use consistent with the public interest." Section 2 provides that the legislature shall provide for the utilization, development and conservation of all natural resources belonging to the State, including land and waters, for the maximum benefit of its people."

The Legislature has, in turn, charged DNR with administering state lands for the "conservation and development of natural resources, including forests, parks, and recreational areas, land, water, agriculture, soil conservation, and

[28] AS 27.21.010(b)(3).
[29] AS 27.21.010(b)(4).
[30] AS 27.21.010(b)(5).
[31] AS 27.21.010(b)(7).

minerals including petroleum and natural gas."[32] As former Commissioner Tom Irwin stated in a July 16, 2007 decision on the previous lands unsuitable petition filed by Trustees for the entire Chuitna watershed, both the federal and state statutory regimes "reflect the goal of allowing, where possible, multiple uses of coal bearing lands, and that balanced consideration would be given to regulated coal mining operations and other uses/resources."[33]

The ASCMCRA goals complement the state's economic development, energy, and mineral policies, as declared by the legislature, including the proper conservation and development of mineral resources such as coal for the "further economic development of the state, to maintain a sound economy and stable employment, and to encourage responsible economic development within the state for the benefit of present and future generations."[34]

October 24, 2011 Decision

In response to the 2010 Petition, the October 24, 2011 *Detailed Statement of Findings and Decision on Petition Requesting that the Streambeds of Anadromous Waterbodies and Associated Riparian Areas in the Chuitna River Watershed be Designated as Lands Unsuitable for All Types of Surface Coal Mining Operations* (referenced herein as the "October 24, 2011 Decision") found that there was insufficient evidence to grant the petition. Specifically, the October 24, 2011 Decision found that there was insufficient evidence to demonstrate that the petition *must* be granted because reclamation within the petition area was not technologically feasible, or that the petition *should* be granted because coal mining operations would destroy habitat and adversely impact fragile lands resulting in significant damage to important cultural, scientific, and aesthetic values and natural systems within the watershed.[35]

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[32] AS 44.37.025(a).

[33] Commissioner Tom Irwin's July 16, 2007 Decision on Petition Requesting that the Chuitna River Watershed be Determined Lands Unsuitable for Surface Coal Mining, at 13 (citing 30 U.S.C. §§ 1201-1202; AS 27.21.010(b)).

[34] AS 44.99.110 (mineral policy); *accord* AS 44.99.100 (economic policy) and AS 44.99.115 (energy policy).

[35] AS 27.21.260(c)(1) contains the operative word "shall" for designations related to reclamation being not technologically feasible (the "mandatory standard"), compared to AS 27.21.260(c)(2) which uses the operative word "may" for designations related to incompatibility of use, damaging values, the loss of long-term productivity, or natural hazards (the

The extensive permitting and litigation history that preceded the 2010 Petition provided a critical backdrop to the October 24, 2011 Decision. Trustees, along with other entities, opposed a coal mining project in the Chuitna watershed in the 1980s that underwent extensive regulatory review and received permit approvals from several state and federal agencies (including DNR, the Alaska Department of Fish and Game (ADF&G), and the U.S. Environmental Protection Agency (EPA)).

After this coal project received state permitting approvals, Trustees sued the state and appealed the Cowper Administration's permitting decision to the Alaska Superior Court. One of the major issues in that appeal, which was also one of the key issues in the 2010 Petition, centered on former Commissioner Judith Brady's determination that reclamation was, in fact, feasible. The Superior Court rejected Trustees' claim that DNR erred in making this finding. Trustees then appealed to the Alaska Supreme Court. In *Trustees for Alaska v. Gorsuch*,[36] the Supreme Court upheld DNR's decision concerning the feasibility of reclamation in the Chuitna watershed area. Specifically, in addressing the contention that DNR erred in approving the proposed plan for restoration, the *Gorsuch* Court held that DNR had properly found that the proposed reclamation and wetlands restoration plans for the leased lands were "sufficient to restore the disturbed area to a condition capable of supporting fish and wildlife."[37] On this point, the Court was unanimous.

The EPA also conducted an environmental review of the same proposed coal mine in the Chuitna watershed through its 1990 Final Environmental Impact Statement (FEIS) and issued a 1990 Record of Decision (ROD) approving the project proposal. Thereafter, the EPA issued a National Pollutant Discharge Elimination System (NPDES) permit for the mine's wastewater discharges.

This proposed coal mining project eventually stalled in the 1990s due to market conditions. Since the mid-2000s, however, the Chuitna area has seen renewed development efforts.

"discretionary standard"). This distinction between the mandatory and discretionary standards for the Commissioner's determinations on unsuitability petitions is at times confuscated by the petitioners.

[36] 835 P.2d 1239 (Alaska 1992).

[37] *Id.* at 1249.

In response to this renewed interest, Trustees, on behalf of petitioners, filed a lands unsuitable petition in 2007 (2007 Petition). The 2007 Petition sought to have the entire Chuitna watershed deemed unsuitable for surface coal mining activities. Petitioners raised concerns regarding the feasibility of reclamation in the Chuitna watershed disturbed by coal mining, as well as allegations that essentially unjustifiable significant harm would occur. Former Commissioner Tom Irwin rejected the 2007 Petition, finding that the petition was incomplete and without merit.[38] Trustees appealed Commissioner Irwin's decision to the Superior Court.[39] The Commissioner and petitioners later settled the litigation, and with the exception of one issue (discussed below) no other aspect of Commissioner Irwin's decision on the 2007 Petition was withdrawn or changed, and Trustees' appeal to the Superior Court was dismissed with prejudice.

On January 21, 2010, Trustees, on behalf of petitioners, once again submitted a new petition (2010 Petition) under ASCMCRA. To support the 2010 Petition, petitioners essentially recycled the two central claims raised in the 2007 Petition: first, that reclamation of the petition area in accordance with the ASCMCRA[40] is not technologically feasible; and second, that surface coal mining operations will destroy habitat and adversely impact fragile lands resulting in significant damage to important cultural, scientific, and aesthetic values and natural systems within the watershed.

The October 24, 2011 Decision found that the evidence contained in the administrative record does not support the designation of any of the petition area as lands unsuitable for surface coal mining operations. The evidence in the administrative record provided by the petitioners and intervenors, and compiled by DNR, demonstrated that reclamation throughout the Chuitna watershed is, in fact, technologically feasible. Moreover, there is not sufficient evidence to support a finding that surface coal mining operations -- that comply with the applicable statutes and regulations -- will adversely affect the environment in such a manner that would justify granting this petition.

In particular, the October 24, 2011 Decision found that there is insufficient evidence to suggest that prior permitting decisions issued by the state and federal

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[38] July 16, 2007 Petition Decision, at 1.
[39] *Chuitna Citizens NO-COALition, Inc., v. Irwin, et al.*, Case No. 3AN-08-6009CI.
[40] AS 27.21.010, *et seq*.

government wrongly concluded that reclamation was feasible. For example, in DNR's 1987 Permitting Decision determining that the restoration and reclamation plans were sufficient (including to restore disturbed fish and wildlife habitats), DNR found "that reclamation as required by AS 27.21 and 11 AAC 90 can be accomplished under the reclamation plan," subject to DNR-required modifications.[41] As mentioned above, this finding was upheld by the Alaska Supreme Court in *Trustees for Alaska v. Gorsuch*, and is also consistent with EPA's 1990 findings that reclamation was feasible.

While the petitioners provided a few new studies to support the 2010 Petition, this information did not contradict DNR's earlier findings with respect to reclamation and restoration of wetlands and fish and wildlife habitat. Nor did it overcome the significant evidence in the record -- discussed in detail below -- which demonstrates that reclamation is technologically feasible. Nevertheless, as the October 24, 2011 Decision showed, DNR has again undertaken a comprehensive review of these issues and will continue to do so as the permitting process continues.

More broadly, petitioners' arguments also suffered from thematic flaws repeated throughout the 2010 Petition. *First*, petitioners did not give appropriate weight to previous federal and state decisions, including the Alaska Supreme Court *Gorsuch* decision, which found that reclamation in the Chuitna watershed is feasible. When petitioners did cite some of these decisions, they often did so by selectively quoting portions of the decision to leave a misleading impression that the decisions supported their allegations.

Second, petitioners made many of the same allegations, often verbatim, that were raised in the 2007 Petition, which was dismissed with prejudice by the Alaska Superior Court. A dismissal with prejudice "is treated as a dismissal on the merits and is, therefore, a final judgment on the merits … operating as res judicata." *Smith v. CSK Auto, Inc.*, 132 P.3d 818, 820 (Alaska 2006). Res judicata (claim preclusion) and collateral estoppel (issue preclusion) "bind the parties and their privies to factual findings, as well as legal conclusions, that have been the subject of prior litigation," and "administrative agency decisions can have preclusive effect on later court proceedings, so that if a party participates in an administrative adjudication, … the

[41] August 21, 1987 Decision (1987 Permitting Decision) on the Diamond Shamrock Chuitna Coal Project, issued by J.M. Brady, at 125 and at 326-361.

adjudication may foreclose the possibility of a later lawsuit on the same factual issues." *Alaska Public Interest Group v. State*, 167 P.3d 27, 44 (Alaska 2007).

Third, petitioners assumed that DNR will permit a surface coal mine that cannot comply with ASCMRCA and other state laws, and they assume that if a mine is permitted, a mining operator will not be able to comply with such laws and regulations. As discussed above, these assumptions conflict with the requirements of an ASCMCRA lands unsuitable petition.[42] And, as the OSM has stated, a petition that simply assumes non-compliance with state law is meritless.[43]

The 2010 Petition also failed to consider other important policy objectives of ASCMCRA including:

- assuring "that the coal supply essential to the nation's energy requirements and to its economic and social well-being is provided and to strike a balance between protection of the environment and other uses of the land and the need for coal as an essential source of energy;"[44] and
- assuring "that reclamation of land on which surface coal mining takes place is accomplished as contemporaneously as practicable with the surface coal mining, recognizing that the responsible extraction of coal by responsible mining operators is an essential and beneficial economic activity."[45]

Notably, as discussed by the intervenors and set out in detail below, the October 24, 2011 Decision recognized that the majority of landowners in the Chuitna watershed selected their lands because of the presence of significant coal resources and the financial prosperity, employment opportunities, and enhanced social well-being that development of those lands would bring, not just to private industry, but to Native corporation shareholders and Mental Health Trust beneficiaries, as well as local residents and the public at large. Thus, to the extent that any landowner or lessee in the area may propose a surface coal mining project capable of demonstrating compliance with applicable state, federal, and local requirements, and that such

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42 11 AAC 90.701(a)(5).
43 48 Fed. Reg. at 41328-29.
44 AS 27.21.010(b)(7).
45 AS 27.21.010(b)(5).

operations can be responsibly conducted, then such operations would further these important statutory directives.

The "Detailed Statement of Findings and Conclusions" section of the October 24, 2011 Decision is included, in its entirety, as Part II of this decision.

November 15, 2011 Request for Reconsideration

On November 15, 2011, Trustees for Alaska submitted a letter on behalf of their clients, Chuitna Citizens Coalition and Cook Inletkeeper (petitioners) requesting reconsideration of the October 24, 2011 Decision.[46] The petitioner's request for reconsideration outlined 36 items titled "Basis Upon Which Reconsideration is Requested and Disputed Material Facts."

On November 22, 2011, the petitioners submitted a memorandum in support of their request for reconsideration, as well as supplemental materials and documents.[47] In addition to the memo, which contained a discussion of issues relating to the October 24, 2011 Decision and the petitioners' request for reconsideration, the petitioners also submitted a CD containing 27 exhibits and additional reference materials. All of this supplemental information, the November 22, 2011 memo in support of the request, and the request for reconsideration itself were added to the administrative record, and evaluated as part of this decision on reconsideration.

November 30, 2011 Request for Reconsideration Granted

The petitioner's November 15, 2011 request for reconsideration was granted on November 30, 2011.[48] The letter granting reconsideration explained that the October

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[46] Letter from Valerie Brown of Trustees to Commissioner Dan Sullivan, titled *"Re: Request for Reconsideration; October 24, 2011, Decision on Petition Requesting that the Chuitna River Watershed Be Determined Lands Unsuitable for Surface Coal Mining"* and dated November 15, 2011.

[47] Letter from Valerie Brown of Trustees to Commissioner Dan Sullivan, titled *"Re: Memorandum In Support of Request for Reconsideration filed with the Commissioner's Office on November 15, 2011: Decision on Petition Requesting that the Chuitna River Watershed Be Determined Lands Unsuitable for Surface Coal Mining"* and dated November 22, 2011.

[48] Letter from Commissioner Daniel S. Sullivan to Valerie Brown of Trustees, titled *"Request for Reconsideration of the October 24, 2011 Detailed Statement of Findings and Decision on Petition Requesting that the Streambeds of Anadromous Waterbodies and Associated Riparian Areas in*

24, 2011 Decision would remain stayed pending a decision on the request for reconsideration. The letter also notified the intervenors-- Alaska Mental Health Trust Land Office (TLO), Tyonek Native Corporation, and PacRim Coal, LP (intervenors) -- that they could submit written materials responding to the Trustees' November 22, 2011 memo.[49]

On December 14, 2011, one of the intervenors, the TLO, submitted written materials in response to the petitioner's request for reconsideration.[50] In their letter, the TLO asserted the following:

- The petitioner's request for reconsideration contains no information that has not already addressed in the October 24, 2011 Decision.
- The petition filing and reconsideration request is a misuse of the petition process provided for in ASMCRA and the federal legislation on which it is based.
- The issues the petitioners continue to raise are, by regulation, more appropriately addressed during the permitting process.
- PacRim's proposed mining activities and the area to be mined are no different than what was permitted by the pertinent state and federal agencies previously, when those agencies made findings that reclamation in the area was technologically feasible.

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the Chuitna River Watershed be Designated as Lands Unsuitable for All Types of Surface Coal Mining Operations" dated November 30, 2011, sent by U.S. mail on 12/1/11.

[49] Trustees submitted a letter dated December 2, 2011 objecting to the Commissioner's decision to allow the formal intervenors to the 2010 Petition (the TLO, Tyonek Native Corporation, and PacRim) an opportunity to provide input on the petitioners' request for reconsideration. This letter argued that the petition process should be reopened for a new public comment period and a subsequent opportunity for requests for reconsideration since the formal intervenors had the opportunity to respond to the request for reconsideration. However, to not allow the formal intervenors an opportunity to respond would violate their due process rights. The purpose of the reconsideration process is to efficiently reexamine a prior finding and then to reach a final agency decision – a decision which may be subject to judicial review. The decision to allow opportunity for the formal intervenors to provide input on the request for reconsideration, was reasonable, consistent with law, and caused the petitioners no prejudice.

[50] Letter from Gregory L. Jones to Commissioner Daniel S. Sullivan titled *"Response to Trustees for Alaska November 22, 2011 Request for Reconsideration Lands Unsuitable to Mine Petition, Chuitna River Watershed"* dated December 14, 2011.

- Previous land use plans prepared by the State of Alaska reflect the fact that the Chuitna area has long been recognized for the existence and likely development of the coal resources in the area.
- The long-standing goal of revenue generation from the coal resources at Chuitna for the benefit of the Trust is demonstrated by the verity that this area is original Trust land.
- The standing of the petitioners based on their future plans for subsistence remains questionable based on the information submitted in the reconsideration request.
- The assumption by petitioners that the post-mine land uses will be for fish and wildlife is conjecture. The TLO is obligated to consider any viable use of this land that could produce benefits to the Trust.
- The petitioners have not demonstrated with any specific information that the discretionary standards listed in AS 27.21.26(c)(2) are any more prevalent in this area than in any other areas that are currently being mined in the state.

The TLO concluded their letter by requesting that the Commissioner reject the petitioners' November 22, 2011 Request for Reconsideration and affirm the October 24, 2011 Decision.

Commissioner's Decision on Request for Reconsideration

This document serves as the Commissioner's Decision on the petitioner's November 15, 2011 Request for Reconsideration of the October 24, 2011 *Detailed Statement of Findings and Decision on Petition Requesting that the Anadromous Streams and Associated Riparian Areas in the Chuitna River Watershed be Designated as Lands Unsuitable for All Types of Surface Coal Mining Operations* (referenced herein as "decision on reconsideration").

After a thorough review of the administrative record, Alaska laws and regulations, and analogous federal laws and regulations, this decision on

reconsideration affirms the October 24, 2011 Decision and denies the allegations made by the petitioners in their request for reconsideration.[51]

The evidence provided in the full administrative record does not support a conclusion that reclamation from coal mining within the petition area is not technologically feasible and therefore does not compel a designation of the petition area as unsuitable for coal mining. Furthermore, the record's evidence does not indicate that future surface coal mining operations in the area – that undergo the individual permitting process and fully comply with all applicable statutes, regulations, and permit conditions – will necessarily affect the environment in such a manner to justify a prohibition of all coal mining.

This decision on reconsideration is not in any way an approval of coal mining, nor of any particular coal mining project, within the Chuitna watershed.[52] Any coal mining projects that may be proposed, including projects on existing coal mining leases, will receive a comprehensive review by DNR, the Alaska Department of Fish & Game (ADF&G), and other relevant agencies for compliance with ASCMCRA,[53] and all other applicable federal and state laws and regulations relevant to review of a proposed coal mining project. In the event that any permits were issued for a project in the course of such a review, they would be individually tailored to the affected areas using the respective agencies' institutional expertise to protect environmental and natural resource values as required by law.[54] Any permit application would also go

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[51] Item 25 in the petitioner's request for reconsideration made the following request: "The decision concedes standing while also erroneously implying that Petitioners do not have standing for the entire petition area. Petitioners request reconsideration of this standing determination to the extent DNR meant to preserve some kind of challenge to petitions standing. Petitioners having standing under Alaska law to request designation of all the lands in the petition area." This decision on reconsideration finds that the additional information submitted by the petitioners in their November 22, 2011 memo is sufficient to establish Chuitna Citizens Coalition's and Cook Inlet Keeper's standing with respect to the overall petition area, not just limited to portions of it. (See Part III of this decision for the Department's response to this point raised by the petitioners).

[52] There are existing leases for coal mining within the Chuitna watershed that have been issued by the landowner, Alaska Mental Health Trust Land Office (TLO), to its lessee, PacRim Coal, LP (PacRim).

[53] AS 27.21.010, *et seq.*

[54] This includes requirements to use comprehensive reclamation techniques and contemporary mining practices, as outlined in Alaska's regulatory performance standards for coal mining. *See generally* 11 AAC 90.301 – 90.501.

through the statutory public notice process, which provides the opportunity for the public (including petitioners) provide critiques and recommendations.[55]

This decision on reconsideration adopts the October 24, 2011 Decision in its entirety, and incorporates it herein by reference.

Although the October 24, 2011 Decision and this decision on reconsideration address the merits of all of petitioners' allegations, they expressly preserve, and in no way hold contrary to, the final findings of former Commissioner Irwin on the evidence and allegations that Trustees asserted in the 2007 Petition and which petitioners reasserted, in many places verbatim, in the 2010 Petition. The October 24, 2011 Decision and this decision on reconsideration expressly preserve the defenses of res judicata and collateral estoppel for Commissioner Irwin's final findings for purposes of any future litigation that may be brought on the 2010 Petition because many of the allegations and arguments raised in the 2007 Petition, and repeated in the October 24, 2011 Decision, were dismissed with prejudice by the Alaska Superior Court. [56]

Finally, it is worth repeating (as was noted in the October 24, 2011 Decision) that petitioners raised some reasonable concerns regarding the impact of surface coal mining operations on water quality, wetlands, the hydrologic balance of the larger Chuitna watershed, and fish and wildlife habitat in the 2010 Petition. These concerns are, however, more effectively and appropriately addressed during the permitting phase of any proposed project. Accordingly, it is important to note that the October 24, 2011 Decision and this decision on reconsideration to not designate the petition area as unsuitable for all or certain types of coal mining activities does not mean that surface coal mining will be approved in this area for a specific project. The October 24, 2011 Decision and this decision on reconsideration have the effect of not preemptively closing all surface coal mining in the designated area as the petitioners desired. The lands unsuitable designation process is independent of the permitting and mine planning processes that are subject to multi-agency regulatory reviews by several state, federal and local agencies, and these processes may prohibit, curtail, or modify coal mining activities depending on the project proposal. Moreover, DNR will

[55] AS 27.21.130; 11 AAC 90.113.
[56] *Chuitna Citizens NO-COALition, Inc., v. Irwin, et al.*, Case No. 3AN-08-6009CI (2008).

not issue a permit for a specific project unless a specific coal mining proposal demonstrates the capacity to comply with all applicable legal requirements.

PART II. OCTOBER 24, 2011 DECISION - DETAILED STATEMENT OF FINDINGS AND CONCLUSIONS

Having considered the administrative record in this matter, including the petition and supporting materials, public comments, as well as intervenors' submittals, the following is a detailed statement of findings relative to the petition, along with conclusions on the petition, including reasons for those conclusions, pursuant to AS 27.21.260 and 11 AAC 90.711, and other applicable authorities.

Background on the 2010 Petition and Prior Related Decisions

1. The petition area is 45 miles west of Anchorage, on the west side of Cook Inlet. The petition area is 3,560 acres (5.5 square miles): streams in the petition area total approximately 118 miles in length in the larger Chuitna watershed. The Chuitna watershed is subject to multiple uses, including residential, subsistence, recreational, and industrial uses. The communities of Tyonek Native Village and Beluga are adjacent to the watershed and the petition area. A variety of mammals, fish (including salmon), and bird species occur in the petition area.

2. The petition area, and the Chuitna watershed throughout which the petition area pervades, falls within the Susitna/Beluga Coal Field, which is one of the most significant coal fields in Alaska.[57] Since at least statehood in 1959,[58] as well as after enactment of the Alaska Native Claims Settlement Act (ANCSA) in 1971,[59] lands within the area were selected for their mineral, coal, and oil and gas resource potential. Many of the landowners and state and local land use plans identify these areas for coal resource development.

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[57] The Beluga Coal Field has the largest identified resource of any coal field in Alaska, south of the Brooks Range. Merritt, R.D. and Hawley, C.C., 1986, Map of Alaska coal resources, 1:2,500,000: Alaska DGGS Special Report No. 37, Table 2.
[58] 72 Stat. 339 Public Law 85-508 (1958).
[59] 43 U.S.C. § 1601, *et seq.*

3. Exploration on at least two separate projects in the area has been conducted for decades. One proposed project, the Diamond Shamrock Chuitna Coal Project, underwent extensive regulatory review by several state and federal agencies (including DNR, the Alaska Department of Fish and Game (ADF&G), and the U.S. Environmental Protection Agency (EPA)), from the mid-1980s until the early 1990s.

4. Based on the ASCMCRA permit application submitted on the Diamond Shamrock Chuitna Coal Project, DNR, under the Cowper Administration, issued a permitting decision in 1987 approving the construction and operation of the proposed coal mine. The findings supporting DNR's approval are recorded in (i) a March 5, 1987, "Conditions of Decision and Findings of Compliance for the Diamond Chuitna Mine" and (ii) an August 21, 1987, "Decision to Issue a Surface Mining Permit Diamond Shamrock Chuitna Coal Joint Venture Diamond Chuitna Mine." These documents were later combined into a single document referenced herein as the "1987 Permitting Decision." DNR made a number of key findings in these documents regarding reclamation and hydrologic impacts:

- Diamond Shamrock's Wetland Revegetation Plan satisfactorily addressed DNR's initial concerns about whether wetland habitat could be restored. The agency noted, however, that the plan would be subject to continuing DNR review and that, if appropriate, changes could be made to the plan during actual mine operation.[60]
- The project was subject to several DNR stipulations relative to reclamation measures and activities that would be required contemporaneous with mining. These included measures for sediment and drainage control (including sediment control ponds),[61] and measures for protecting surface and groundwater hydrology (including additional hydrologic monitoring).[62]
- In accordance with AS 27.21.180(c)(2), Diamond Shamrock had "demonstrated that reclamation as required by AS 27.21 and 11 AAC 90

[60] August 21, 1987 Decision (1987 Permitting Decision) on the Diamond Shamrock Chuitna Coal Project, issued by J.M. Brady, at 33-34.
[61] *Id.* at 40-42, and at 53-92 (consisting of an August 16, 1987 report prepared for DNR by Arctic Hydrologic Consultants that provides a technical review on the proposed Sediment and Drainage Control Plan).
[62] *Id.* at 44-48.

can be accomplished under the reclamation plan," subject to DNR-required modifications.[63]

- In accordance with AS 27.21.180(c)(3), "an assessment of the probable cumulative impact of all anticipated mining in the area on the hydrologic balance has been made and the proposed operation has been designed to prevent material damage to the hydrologic balance outside the permit area."[64]

- Regarding stream restoration, DNR -- while acknowledging that "post-mining baseflows will take ten to fifteen years to reach pre-mining levels and that it was important that enhancement techniques be maintained until the pre-mining flows are reached" -- found that the application complied with 11 AAC 90.327 (Stream Channel Diversion) for the initial permit term.[65]

5. On June 28, 1988, then DNR Commissioner Judith Brady adopted, with minor modifications, the Hearing Officer's May 21, 1988, proposed decision (1988 Administrative Appeal Decision) on the consolidated administrative appeals brought on the 1987 Permitting Decision by Trustees for Alaska, the project proponent Diamond Shamrock, and others. The Hearing Officer's proposed decision recommended certain modifications to the permitting decision, including lengthening the permit term from five to ten years.[66] Based on the administrative record, the Hearing Officer also found that "Diamond's reclamation plan, including its wetlands restoration plan, is sufficient to restore the disturbed area to a condition that is capable of supporting fish and wildlife."[67] With this 1988 Administrative Appeal Decision, Commissioner Brady affirmed the 1987 Permitting Decision.

6. EPA also conducted an environmental review of the proposed coal mine through its 1990 FEIS and issued a 1990 ROD approving the proposal. Thereafter, EPA issued an NPDES permit for the mine's wastewater discharges. In the two-

63 *Id.* at 125, and at 326-361 (containing Section IV findings).
64 *Id.* at 125, and at 362-404 (containing Section V findings).
65 *Id.* at 202.
66 1988 Administrative Appeal Decision at 5-7.
67 *Id.* at 33-35.

volume 1990 FEIS and the 1990 ROD, EPA considered several factors and made a number of key findings:

- EPA considered numerous impacts the project potentially could have on the environment, including possible impacts to wetlands, subsistence, fish and wildlife, and associated habitat impacts.[68]
- EPA concluded that the area in which the project was to be located was not pristine. For example, it had been previously entered for logging and oil and gas purposes.[69]
- EPA stated the following regarding potential impacts to wetlands:

> The acidic, muskeg-type wetlands which are widely dispersed throughout the area are not highly productive and the net primary productivity of replacement communities could be as high or higher than the communities that now exist. Therefore, adverse impacts to primary wetland productivity would not be significant on a regional scale. Food webs would be interrupted in the immediate vicinity of pre-mining wetland areas, but such interruption would probably not be significant on a regional basis because of the isolated nature of most area wetlands and the large extent of similar wetlands outside the project area.[70]

- EPA noted that the wetlands within the Diamond Shamrock Chuitna Coal Project area were similar to wetlands found outside the project area (i.e., the Chuitna watershed/drainage).[71]
- In the ROD, EPA stated that the authorizing agencies, including EPA and DNR, anticipated that reclamation within the project area would be undertaken in accordance with specific requirements, and therefore feasible.[72]

7. After the commissioner upheld DNR's permitting decision upon appeal, multiple plaintiffs, including Trustees for Alaska, appealed the commissioner's

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[68] 1990 FEIS at 5-11, 5-16, and 5-75.
[69] *Id.* at 5-136.
[70] *Id.* at Appendix F, at 2-3.
[71] *Id.* at 3.
[72] 1990 ROD at 6, and at 9-12. *See also* 1990 FEIS, at 2-31 to 2-34.

decision in the *Gorsuch* litigation.[73] With the exception of one modification, which required a separate ASCMCRA permit for an eleven mile access/haul road from the mine site, the Alaska Superior Court upheld the permitting decision. Upon Trustees' appeal of the Superior Court's decision, the Alaska Supreme Court -- while remanding the decision to DNR for further consideration of cumulative effects of activities associated with the permit, and reconsideration of the reclamation bond amount -- addressed Trustees' contention that DNR erred in approving the proposed plan for restoration of ecological functions and revegetation. Among other things, the Court held:

- that DNR had found that the proposed reclamation and wetlands restoration plans for the leased lands were "sufficient to restore the disturbed area to a condition capable of supporting fish and wildlife."[74]
- that DNR acted reasonably in accepting the restoration plan, because the plan

> describes how wildlife habitat will be recreated by constructing peat-filled depressions which will be planted with various plant species. In addition, three sediment ponds will be inoculated with plant and insect life forms, and seedlings will be planted to provide a vegetation canopy layer for the benefit of wildlife.[75]

8. Diamond Shamrock Chuitna Coal Project project, however, ultimately stalled due to market conditions.

9. Since the mid-2000s, the area has seen renewed development efforts, and the former Diamond Shamrock Chuitna Coal Project is now simply referred to as the Chuitna Coal Project. The current proponent of the project, PacRim Coal, is developing baseline information and coordinating with state and federal agencies, with the expectation that permit applications for the project will be submitted in the next year.

10. The petitioners submitted a petition in 2007 (2007 Petition) seeking to have the entire Chuitna watershed be deemed lands unsuitable for surface coal

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[73] 835 P.2d at 1239.
[74] *Id.* at 1249.
[75] *Id.*

mining activities. In this petition, petitioners' counsel, Trustees for Alaska, raised concerns regarding the feasibility of reclaiming areas disturbed by coal mining, as well as allegations that essentially unjustifiable significant harm would occur.

11. In a decision issued on July 16, 2007, then-Commissioner Tom Irwin returned the 2007 Petition to petitioners, finding that the petition was incomplete and without merit.[76] In that decision, which contained multiple findings of fact and law, Commissioner Irwin informed petitioners that they could submit a new petition, and described the types of evidence which would be needed to support the petition, so that it could be reviewed on the merits.[77] Commissioner Irwin also informed petitioners, in accordance with 11 AAC 90.701(a)(5), that the petition needed to assume that contemporary mining practices, required under AS 27.21 and this chapter, would be followed if the area were mined, and that the 2007 Petition failed to do that.[78]

12. In a letter dated February 14, 2008, Commissioner Irwin upheld his decision upon petitioners' request for reconsideration. Petitioners appealed Commissioner Irwin's decision on the 2007 Petition to the Superior Court.[79] The Commissioner and petitioners later settled the litigation, and with the exception of one issue (*see* discussion of Allegation V, below), no other aspect of Commissioner Irwin's decision on the 2007 Petition was withdrawn or changed, and the petitioners' appeal to the Superior Court was dismissed with prejudice.[80]

13. On January 21, 2010, Trustees submitted a new petition (2010 Petition) under AS 27.21.260 on behalf of Chuitna Citizens Coalition and Cook Inlet Keeper.

14. Petitioner Chuitna Citizens Coalition is an organization whose members are "full-time and part-time residents of Beluga," a small community located near the petition area. The petitioner describes three of its members' interest in the recreational, fish and wildlife, and subsistence values of the petition area. Two of its members, Judy and Larry Heilman, are residents of Beluga, and state they use the watershed for hunting and fishing opportunities, but do not describe where in the petition area they specifically conduct their activities. Another member, Terry

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[76] July 16, 2007 Petition Decision, at 1.
[77] *Id.* at 5-15.
[78] *Id.*
[79] *Chuitna Citizens NO-COALition, Inc., v. Irwin, et al.*, Case No. 3AN-08-6009CI.
[80] For this reason, arguments in the 2010 Petition consistent with the arguments made in the 2007 Petition are likely barred by res judicata and collateral estoppel.

Jorgenson, engages in commercial fishing in the marine waters/Ladd Landing area in Cook Inlet. Ladd Landing is adjacent, rather than within, the petition area. Ladd Landing has been proposed as a potential transfer site for the Chuitna Coal Project for loading coal to freighters for marine shipping.[81]

15. Petitioner Cook Inlet Keeper "is a community-based nonprofit organization that combines advocacy, education and science towards its mission to protect Alaska's Cook Inlet Watershed and the life it sustains."[82] Cook Inlet Keeper asserts that it has members living in the petition area "that would be adversely affected by surface coal mining operations in the Chuitna River watershed," including with respect to members' subsistence activities.[83]

16. The 2010 Petition was more refined than the 2007 Petition because it requests that streambeds underlying anadromous water bodies and their associated riparian areas within the Chuitna watershed be designated unsuitable for surface coal mining as opposed to the broader request in 2007 to have the entire watershed deemed lands unsuitable for surface coal mining. Nonetheless, Petitioners submitted essentially the same evidentiary information that was provided with the 2007 Petition, and only included a handful of additional new documents as evidence to support the petition's allegations. Thus, many of the allegations and supportive materials cited by the petitioners in their 2010 Petition are the same as those that petitioners cited in their 2007 Petition and are also similar to the issues litigated in the *Gorsuch* case.[84]

17. While this more focused specification of the petition area might initially be viewed as a reduction in the area that was sought for designation under the 2007 Petition, the practical effect of the designation would not be so limited, given the geographical reach of the petition area. The specified streambeds and riparian areas have a wide-ranging, meandering trace throughout the Chuitna watershed,[85] repeatedly crossing over the coal resources that likewise pervade throughout the watershed. The designation of the petition area would therefore have a fragmenting effect on the coal resources, jeopardizing the feasibility and extraction of any of the

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[81] Petition at 12-13.
[82] *Id.* at 13.
[83] *Id.* at 13-14.
[84] Petitioners in this 2010 petition, Chuitna Citizens Coalition (formerly Chuitna Citizens NO-COALition) and Cook Inlet Keeper, were among the petitioners listed in the 2007 Petition.
[85] *See* Figure 1 and "Description of the Petition Area."

coal resources present in the watershed, even if those resources are not within the petitioners' identified petition area.

18. On February 22, 2010, former Commissioner Tom Irwin found the 2010 Petition to be administratively complete under 11 AAC 90.703(a), and that it contained the information required under 11 AAC 90.701(a). At the time, the commissioner made no other determinations as to the adequacy of the petition.

19. The petition alleges in Allegation I that reclamation of impacts from any type of surface coal mining operations in the petition area (*i.e.*, the streambeds of anadromous streams and their riparian areas), as well as the streams that overlie the delineated area, is not technologically feasible in accordance with ASCMCRA.[86] The petition specifically states that:

- surface coal mining would irreparably harm the area's hydrologic balance, including scrub/sweetgale fen and peat soils ecosystems for which few examples of successful reclamation exist;[87]
- reclamation would not restore the groundwater recharge capacity in the area, violating the performance standards requiring such restoration;[88]
- reclamation would not restore aquatic productivity to premining levels, altering highly productive spawning, migratory, and rearing habitat;[89] and
- surface coal mining on the identified lands cannot be designed and operated to minimize changes in water quality and hydrology enough to ensure no adverse effects to fish and wildlife habitat.[90]

20. The petition alleges in Allegation II that all types of surface coal mining operations will affect fragile land within the meaning of the ASCMCRA regulations and would result in significant damage to important cultural, scientific, and aesthetic values and natural systems.[91]

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[86] *Id.* at 14-16.
[87] *Id.* at 16-24.
[88] *Id.* at 24-25.
[89] *Id.* at 25-29.
[90] *Id.* at 29-33.
[91] *Id.* at 33-45.

21. The petition alleges in Allegation III that all types of surface coal mining operations will affect renewable resource land which could result in a substantial loss or reduction of long-range productivity of water supply or food or fiber products.[92]

22. The petition alleges in Allegation IV that all types of surface coal mining operations could substantially endanger life and property because these operations will occur in areas of unstable geology and where other natural hazards are present. This would include local faults which experience frequent seismic activity, the possibility of volcanic eruptions, strong currents and severe winter ice conditions that would make transport dangerous and spills more likely, and strong winds that would contribute to coal dust being blown offsite.[93]

23. The petition alleges in Allegation V that all of the delineated petition area, including streambeds underlying anadromous water bodies and associated riparian areas that occur within Logical Mining Unit-1 (LMU-1),[94] must be considered in a decision on the petition, and that none of the delineated petition area is exempt from petition review, asserting that there were no substantial legal or financial commitments for an operation in this area before January 4, 1977.

24. In support of the 2010 Petition, the petitioners cite earlier reviews and decisions that were issued in the late 1980s and early 1990s by DNR, the EPA, and other agencies when the project was identified as the Diamond Shamrock Chuitna Coal Project. The petitioners cite DNR's August 21, 1987, permitting decision (1987 Permitting Decision) approving the project; the 1988 administrative appeal decision (1988 Administrative Appeal Decision) affirming that decision; EPA's 1990 final environmental impact statement (1990 FEIS) and 1990 Record of Decision (ROD) on the project;[95] and *Trustees for Alaska v. Gorsuch*,[96] a 1992 Alaska Supreme Court decision involving Trustees for Alaska's challenge on DNR's 1987 Permitting Decision that authorized the Diamond Shamrock Chuitna Coal Project.

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92 *Id.* at 45-46.
93 *Id.* at 46-48.
94 LMU-1 is the area which was proposed for permitting in the Diamond Shamrock Chuitna Coal Project. This area is now held by PacRim, and is promoted as the "Chuitna Coal Project."
95 The FEIS was actually issued in late 1989, but because EPA's ROD was issued in 1990, and because the petitioners, intervenors, and commenters identify it as the 1990 FEIS, this decision does so as well, for ease of reference.
96 835 P.2d 1239 (Alaska 1992).

25. Petitioners also submitted a few more recent reports that had not been submitted with the petitioners' 2007 Petition. They submitted reports by Palmer M.A., Trasky L., and Wipfli M.S., which are reports based on a review of draft aquatic baseline studies and PacRim's draft Fish and Wildlife Protection plan associated with the Chuitna Coal Project. Petitioners also submitted a report on Valley Fills in Appalachia, *Mountaintop Mining Consequences*,[97] in which the report discusses the burial of headwater streams by overburden during coal mining, along with the reports cited by Palmer, *et al.*, and quoted in the 2010 Petition. And petitioners submitted a report that discusses the development of Circumarctic peatlands, *Rapid Early Development of Circumarctic Peatlands and Atmosphere CH4 and CO2 Variations*.[98]

26. Thus, other than the refinements to the petition area, portions of the narrative that reclamation would not be technologically feasible, and the submittal of the above-referenced reports, the allegations and referenced materials in the 2010 Petition are largely the same, even verbatim, to that set forth in the 2007 Petition.

27. Under AS 27.21.260(b) and 11 AAC 90.709(a), the Commissioner may, in his or her discretion, extend the time for holding a hearing for "up to five additional months if the delay is necessary to provide a field season and a reasonable period of time to review the results of field season surveys." This option was exercised, and during the summer and fall of 2010, DNR conducted field work within the Chuitna River watershed in order to adequately review the petition. Field work consisted of multiple full day trips, conducted throughout the summer and fall of 2010, to different portions of the watershed. Field work included aerial and ground investigation of stream and riparian areas, as well as a review of the condition of reclaimed bulk coal sample sites within the 2003 and Lone Creek watersheds that are within the PacRim Chuitna Coal Project area. The additional time also allowed for the collection of additional surface and ground water information and fish population estimates by third party contractors working on the proposed Chuitna Coal Project. This information was used to more fully understand and address the potential impacts to resources within the watershed from surface coal mining activities as they related to petitioners' allegations.

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[97] Palmer, Margaret A., *et al.*, 327 Science 148 (2010).
[98] MacDonald, Glen M., *et al.*, 312 Science 385 (2006).

28. The following entities sought and were granted intervenor status under 11 AAC 90.705(e) in opposition to the petition:

(a) Alaska Mental Health Trust Land Office ("the Trust")
by Gregory Jones, Executive Director
718 L Street Suite 202
Anchorage, Alaska 99501

(b) PacRim Coal, LP ("PacRim")
by Joe Lucas
1007 W 3rd Ave, Suite 304
Anchorage, AK 99501

(c) Tyonek Native Cooperation ("TNC")
by Michaelene Stephan, President
1689 C Street, Suite 219
Anchorage, Alaska 99501

29. No person or entity sought intervenor status under 11 AAC 90.705(e) in support of the petition.

30. Intervenors PacRim, TNC and the Trust all strongly oppose an unsuitability designation based on the petition, and request that it be denied.

31. Both TNC and the Trust are substantial landowners in the petition area. They both submitted letters regarding their land interests and expressing their significant economic interests associated with the coal resources located within the petition area.[99] TNC specifically stated that the petition "seeks to end most development of the coal reserves in the region where TNC's lands are located and mostly TNC shareholders reside. Such a determination would frustrate TNC's efforts to increase local employment opportunities for its shareholders, who are the Native people and the majority of the population of the region. Developing the region's substantial coal resources is critical to economic growth."

32. The Trust wrote: "The Trust is the predominant landowner within the Chuitna River Watershed, and lessor of the coal resources located within the areas subject to the petition. As the owner of the coal resources proposed for development

[99] *See,* e.g., TNC comment letter on the petition, dated January 5, 2011, at 4; Trust comment letter on the petition, dated January 5, 2011, at 2.

pursuant to the existing coal leases held by PacRim Coal, LP (PRC) in the subject area, The Trust has a significant stake in the outcome of the petition proceeding. . . . To allow it [the petition] to go forward would significantly affect the ability of The Trust and its lesee to develop this resource and would result in a major negative economic impact to The Trust and its beneficiaries."

33. PacRim, a leaseholder, also submitted similar letters.[100]

34. On January 19, 2011, DNR held a public hearing in Kenai, Alaska. One hundred and fifty individuals signed in attendance, representing many Southcentral Alaska communities. Fifty-seven individuals provided oral comments, with some individuals getting up a second time during the course of the proceedings to provide additional comments. Nearly all of the comments were in support of the petition, with one individual speaking against the petition.

35. On February 19, 2011, DNR held another public hearing in the Village of Tyonek. This second hearing was primarily scheduled to allow oral comments from those people who were unable to attend the January 19th hearing in Kenai due to adverse weather in Tyonek. Approximately 60 individuals attended the hearing, including individuals from Anchorage. Approximately eighteen people provided comments at the hearing. Nearly all of the comments were in support of the petition.

36. Public Comments: DNR received a total of approximately 550 comment submittals (letters, comment forms, e-mails and other oral comments documented in the hearing transcripts) during the petition review. Comments addressed both the petition and permitting issues directly relating to PacRim's proposed Chuitna Coal Project. Of the approximately 550 comments submitted, approximately 525 came from private individuals. Fifteen resolutions were submitted by trade organizations (fishery councils). Seven comment letters were from non-Governmental organizations; one comment letter came from a community council, and three comment letters were from Native Corporations. Eight papers supporting the petition were submitted. Approximately 30 comments favored dismissing the petition, while approximately 500 comments supported the petition. Comments received on the petition that were within the scope of and relevant to the petition process were considered in reviewing the petition and the formulation of this decision, and these comments and DNR's

[100] *See, e.g.*, PacRim's January 5 and 19, 2011, comment letters on the petition.

summary of comments and responses thereto are part of the agency's administrative record relative to the petition, and those written responses are expressly incorporated into this decision by reference.[101] Many of the comments focused on the Chuitna Coal Project -- both the project's location and PacRim's more recent efforts in seeking permits, environmental reviews and project development.

37. In accordance with AS 27.21.260(a), 11 AAC 90.701(a)(6), and 11 AAC 90.711, DNR has compiled information and data relating to the petition area and the petition's allegations (including detailed site-specific data required from companies as part of their permit applications) in order to develop this detailed statement and to render this decision. Detailed and relevant information regarding any petition area, including detailed soils and hydrologic data for the petition area is, as a practical matter, iterative and acquired over a period of several years. Among the key documents containing relevant, competent and scientifically sound data and information regarding the condition and environment of the Chuitna watershed are the 1990 FEIS, 1990 ROD, the 1987 Permitting Decision, and the Alaska Supreme Court *Gorsuch* decision.

Description of the Petition Area

38. The petition area is located in Southcentral Alaska, approximately 45 miles west of Anchorage (*see* Figure 1). The lands for which petitioners seek an unsuitability determination involve 3,560 acres (5.5 square miles), and cover stream reaches totaling approximately 118 miles (Chuitna watershed) (*see* Figures 2 and 3). As such, the streambeds and riparian areas do not occur in one or two confined areas on the west side of Cook Inlet, but rather meander and spread throughout the larger Chuitna watershed area. The Chuitna watershed is very large, encompassing approximately 95,600 acres (~150 square miles) and containing approximately 200 miles of streams. The main stem of the Chuitna River is approximately 25 miles in length, and courses from its headwaters at the base of the Alaska Range to the point where it empties into Cook Inlet between the communities of Tyonek (population

[101] 11 AAC 90.711(a).

171[102]) and Beluga (population 20[103]). The Chuitna watershed is situated within the Beluga Plateau and consists of streams cutting through the underlying Tertiary sedimentary strata creating moderate relief, with elevations ranging up to 1400 feet.

39. The Beluga Plateau is characterized as having typical glacial moraine-controlled topography of irregular ridges and depressions. To the northwest of the watershed are higher plateaus and foothills leading to the Alaska Range. Approximately 30 miles west is Mt. Spurr, a volcano active since at least the Tertiary period, and to the southwest, the estuarine and alluvial lowlands of the Chakachatna embayment, and Cook Inlet borders the area to the south. The plateau is described as a "sedimentary plateau mantled by Quaternary glacial deposits."[104]

40. The general geology of the watershed consists of semi-consolidated, coal-bearing sedimentary rocks of the Tyonek Formation, overlain by a mantle of younger, unconsolidated sediments that include glacial deposits and alluvium located along stream reaches.[105] The Tyonek Formation is a sequence of fluvial and deltaic silts, clays, and sands with occasional gravel beds and coal seams."[106] The formation has been fairly compacted after burial and is poorly cemented.[107]

41. The hydrostratigraphic units within the watershed[108] consist of recent alluvium, glacial deposits, coals of the Tyonek Formation and the Sub-Red 1 Sands

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[102] Dept. of Commerce Community Database, http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.cfm?Comm_Boro_Name=Tyonek&Data_Type=2010Census&submit2=Get+Data

[103] Dept. of Commerce Community Database Online at http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.cfm?Comm_Boro_Name=Beluga&Data_Type=2010Census&submit2=Get+Data

[104] PacRim Coal, L.P., *Chuitna Coal Project Geology Baseline Information* (August 2006), at 3; 27 p.

[105] Wahrhaftig, *et al.*, *Coal in Alaska*, in The Geology of Alaska, Plafker and Berg editor (1994), pp 937-78, at 953.

[106] 1987 Permitting Decision at 366.

[107] *Id.*

[108] The detailed studies and information of the hydrogeology and the hydrology for the watershed are limited, and much of the information used to process the 2010 petition is specifically focused upon the area within and around the proposed Chuitna Coal Project. Because similar lithologies are observed present throughout the watershed, this information has been used to provide a general description of the hydrology of the larger Chuitna watershed, but it is important to note that certain areas within the watershed may be markedly different from the available information due to erosion of the Tyonek Formation and/or displacement of lithologies due to faulting.

within the Tyonek Formation.[109] Alluvium consists of the sands and gravels within the course of present day stream channels. Glacial deposits consist of unconsolidated sediments characterized as unsorted mixtures of clay to boulder-sized material with lenticular bodies of well-sorted sands and gravels.[110] Coals consist of the Blue Coal, Red 3, Red 2, and Red 1 seams.[111] The interburden between the coal seams consists of interbedded and interfingering sequences of poorly consolidated and weakly cemented sandstones, siltstones, and mudstones.[112] This interburden material between coal seams and the overlying glacial deposit generally acts as an aquitard.[113] The Sub Red 1 aquifer is a fine to medium grained sandstone that underlies portions of the Chuitna watershed.[114] Coal seams within the Tyonek formation also occur below the Sub Red 1 sands.[115]

42. The near surface groundwater table generally mimics the surface topography, with flow towards streams and tributaries. This topography provides for surface-water collection and for ground-water recharge into the alluvium, coal seams, and overburden.[116] With these units, groundwater generally flows from higher elevations to lower elevations where it discharges as seeps or to the stream channels where the channel is below the local groundwater's piexometric surfaces.[117]

43. Recharge to the glacial deposits is by direct infiltration of precipitation (rain or snowmelt), infiltration from muskeg bogs in depressions, and from stream channels that are above the water table.[118] Overall, the storage capacity of the glacial deposits is relatively large compared to the other units, and the glacial material is the main source of recharge to the underlying coal and sand aquifers of the Tyonek Formation.

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[109] Chuitna Coal Project Hydrology Component Baseline Report Historical Data Summary, Riverside Technology Inc. 2007, at 5-5.
[110] *Id.*
[111] 1990 FEIS at 4-24.
[112] Chuitna Coal Project Hydrology Component Baseline Report Historical Data Summary, Riverside Technology Inc. 2007 at 5-5.
[113] *Id.* at 5-6.
[114] *Id.*
[115] Wahrhaftig, *et al.*, *Coal in Alaska, in The Geology of Alaska*, Plaker and Berg editor (1994), pp 937-78, at 953.
[116] 1987 Permitting Decision at 366-67.
[117] 1990 FEIS at 4-25 to 4-26.
[118] 1987 Permitting Decision at 367.

44. The groundwater direction in the upper portions of the Tyonek Formation is predominantly from west to east.[119] Groundwater flow direction is controlled locally by the presence of faulting and folding within the formation.[120] Within the watershed, the coal seams and the Sub Red 1 sands may interact with streams where these units outcrop or subcrop in the streams or alluvium.[121] This interaction with the streams may be in the form of upwelling to the stream or local recharge from the stream, depending on local structures influencing groundwater flow.[122]

45. Recharge to the coal seams occurs by direct infiltration on outcrops, downward flow from saturated glacial deposits, and by diffuse leakage through confining interburden layers.[123] Within the glacial deposits there is a small amount of vertical leakage which contributes to the recharge of the interburden, coal seams, and the Sub Red 1 sands.[124] Recharge for the Sub Red 1 sands can be inferred from well data to occur predominately at higher elevations in the western most part of the watershed and beyond.[125]

46. Discharge of groundwater into streams as baseflow contributes up to 30 percent of the total stream flow in streams in the Chuitna watershed.[126] Contributions to baseflow from the glacial deposits and aquifers in the Tyonek Formation are estimated to be approximately 89 percent and 11 percent, respectively.[127]

47. Poorly drained organic soils dominate much of the Chuitna Coal Project area, and materials underlying the surface consist primarily of alluvium, peat, glacial deposits and minor amounts of loess and volcanic ash.[128] The vegetation in the area is generally characterized as a combination of the following: closed spruce-hardwood forest, bottomland spruce-poplar forest, high brush communities and wet tundra.[129]

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[119] 1990 FEIS at 4-26.
[120] *Id.* at 4-25.
[121] Chuitna Coal Project Hydrology Component Baseline Report Historical Data Summary, Riverside Technology Inc., 2007, at 5-4.
[122] *Id.*
[123] 1987 Permitting Decision at 367.
[124] Addendum D12-B Groundwater Model, Chuitna Coal Project, August 2007, at 6-7.
[125] Chuitna Coal Project Hydrology Component Baseline Report Historical Data Summary, Riverside Technology Inc. 2007, at 5-16.
[126] *Id.* at 3-27.
[127] 1987 Permitting Decision at 386.
[128] 1990 FEIS at 4-7.
[129] *Id.*

Alder thickets and willow stands form a large portion of the Chuitna watershed.[130] No threatened or endangered plant species are known to exist in the area.[131] Of the wetland communities, open low shrub grass fen is the most common.[132]

48. A number of mammals exist in the region, most notably moose, beaver, and brown and black bear. Avian surveys have noted waterfowl, shorebirds, and raptors, though the habitat for birds is considered relatively poor in comparison to the Trading Bay and Susitna Flats State Game Refuges blanketing the area to the south and east, respectively.[133]

49. The waterbodies in the area support an array of primary, secondary, and tertiary producers (algae, invertebrates, and vertebrates).[134] These streams can be characterized as clear-water streams with moderate to high organic staining, stable channels and flows, good benthic productivity, and good to excellent fish habitat.[135]

50. Freshwater habitats in the project area support abundant resident and anadromous fish populations that have significant subsistence, commercial, and sport value. The entire main stem of the Chuitna River is accessible to adult anadromous fish and is also utilized by juveniles for rearing and by resident fish populations.[136] By far the greatest fishery value of the Chuitna River system is represented by the production of Pacific salmon, especially Chinook, and coho.[137] Pink, chum, and red (sockeye) salmon are also present.[138] Important resident species include rainbow trout, arctic lamprey, slimy sculpin, coastrange sculpin, and threespine stickleback.[139] Pacific lamprey and Dolly Varden are also present within the Chuitna watershed.[140] Spawning activity was noted as far upstream as 11.4 km (7.2 mi) above the mouth of Stream 2003. In Lone Creek, pinks were seen as far up as 14.6 km (9.1 mi) above the

130 HDR, 2007 Baseline Report for Vegetation and Wetlands, at 7.
131 *Id.*
132 1990 FEIS at 4-7.
133 1990 FEIS at 4-14.
134 *Id.* at 4-10.
135 *Id.* at 4-41.
136 *Id.* at 4-40.
137 OASIS Environmental Inc., 2007 Freshwater Aquatic Biology Study Program, at xiv.
138 *Id.*
139 1990 FEIS at 4-41.
140 *Id.*

mouth (at the confluence of Stream 2002).[141] Below Stream 2003, the Chuitna River was rated as very high in habitat values for Chinook and high for all other species.[142]

51. No threatened or endangered fish or wildlife species are known to be present within the petition area. The federal National Marine Fisheries Service (NMFS), with the National Oceanic and Atmospheric Administration (NOAA), has designated Cook Inlet beluga whales as depleted under the Marine Mammal Protection Act (MMPA), and as endangered under the Endangered Species Act (ESA). NMFS has also designated critical habitat for the Cook Inlet beluga whale within the waters of Cook Inlet.[143] The federally designated critical habitat is directly adjacent to the far east end of the petition area.

52. Recreational uses of the area include sport hunting, trapping, and fishing. The primary target for hunters in the area is moose. A limited number of brown and black bear are also taken.[144] In the fall and winter, waterfowl, spruce grouse, and ptarmigan are hunted. Trapping is limited to the fall and winter months, and targets fur bearers such as beaver, river otter, lynx, marten, and wolverine.[145] Sport fishing in the Chuitna River is primarily for Chinook and coho salmon.[146]

53. The region was initially settled by the Dena'ina (Tanaina) people who lived along the coast near the present day settlement of Tyonek.[147] The Moquawkie Indian Reservation was established in 1915, and in 1970, the members elected to participate as a village corporation under the Alaska Native Claims Settlement Act (ANCSA).[148] Oil, gas, and coal exploration began in the area in the early 1960s, and the Chugach Electric Association's natural gas power plant at Beluga began operations in 1968.[149] In the mid-1970s, the state sold salvage rights to the beetle-killed spruce in the area and the resultant logging operations created a network of

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141 *Id.*
142 *Id.* at 50.
143 More information is provided at the following link: http://www.nmfs.noaa.gov/pr/species/mammals/cetaceans/belugawhale.htm
144 OASIS Environmental Inc., *Land Use Baseline Summary Report for the Chuitna Coal Project*, (October 2006).
145 *Id.*
146 *Id.*
147 *Id.* at 4-1.
148 *Id.*
149 *Id.*

roads throughout the area.[150] A lumber mill was built at Tyonek in 1973, where lumber was chipped and exported. Logging occurred both south and north of the Chuitna River.[151]

54. Subsistence use of the petition area and the larger Chuitna watershed area through which the petition area meanders is similar to the recreational uses.[152] A report by the Alaska Department of Fish and Game on subsistence harvest in the Chuitna watershed area stated that "[s]almon made up the largest portion of harvests for home use in the study communities, but harvests of large land mammals, other fish, small game such as birds and furbearers, marine invertebrates, and wild plants were also important. Marine mammal harvests were important in Tyonek."[153] Subsistence uses also include a collection of edible plants and berries.[154]

Potential Coal Resources in the Petition Area and the Effect on the Demand for and Supply of Alaska Coal

55. The petition area meanders throughout the Chuitna watershed. The watershed is within the Susitna/Beluga Coal Field. This coal field is one of the most significant coal fields in Alaska,[155] containing a resource estimated at 2.2 billion metric tonnes (MT) of low-sulfur coal.[156] The occurrence of coal seams in the west Cook Inlet area has been known for decades and large exposures of coal occur in the Chuitna River valley. These coal seams or coal measures are readily observed outcroppings in the Chuitna River itself and on banks and bluffs at many locations in the watershed. Evaluation of the coal resources in the area show that it has a low-

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[150] *Id.* at 4-3.
[151] 1990 FEIS at 4-3 and 4-10. Environmental Research and Technology, Inc., *Diamond Chuitna Project, Mine Component Vegetation Baseline Report*, prepared for Diamond Shamrock-Chuitna Coal Joint Venture, Anchorage, AK, at 23 (February 1985).
[152] Stanek, Ronald T., and Holen, Davin L., *Update of Wild Resource Harvest And Use Information For Tyonek and Beluga, Alaska*, Technical Paper 321, 2005/2006, 2006.
[153] Stanek, Ronald T., and Holen, Davin L., *Update of Wild Resource Harvest And Use Information For Tyonek and Beluga, Alaska*, Technical Paper 321, 2005/2006, 2006.
[154] *Id.*
[155] In terms of identified resources, the Beluga coal field is slightly larger than the total of the coal fields of the Nenana Province near Healy, Alaska. Merritt, R.D. and Hawley, C.C., 1986, Map of Alaska coal resources, 1:2,500,000: Alaska DGGS Special Report No. 37, Table 2.
[156] DDS-77, Alaska Coal Geology, Resources, and Coalbed Methane Potential by Romeo M. Flores, Gary D. Stricker, and Scott A. Kinney, 2004.

sulfur content, and this resource would provide a cleaner burning fuel than many other coal resources currently in production in the United States.[157]

56. The lands in the Susitna/Beluga Coal Field are owned by various private and public entities, including the State of Alaska, the Mental Health Trust, Tyonek Native Corporation, Cook Inlet Region, Inc. (CIRI), and the Kenai Peninsula Borough.[158] Since statehood in 1959,[159] as well as following enactment of ANCSA in 1971,[160] many of the lands within the area were selected by the state and third parties based upon the coal resources present in the area.[161] For example, the core townships in the Chuitna watershed are original Mental Health Land Trust selections, filed in 1960 with patent received in 1966.[162] The Trust selections were made on known resource lands containing large deposits of coal, sand and gravel, heavily timbered areas, and areas with significant oil and gas potential. It was anticipated that resource development leases on the lands would provide rental and royalty income for the Trust over the long term.[163] DNR estimates that an aggregate of at least $127 million has been expended on coal exploration and potential development within the Chuitna watershed.

57. In the 1970s, exploration drilling was conducted by the Diamond Alaska Coal Company[164] and the Beluga Coal Company.[165] This exploration continued into the late 1980s, with over 200 holes being drilled and four test pits being mined in the watershed. The exploration permits associated with these activities (Beluga-Center Ridge Exploration Permit No. 01-84-795 and Chuitna Exploration Permit Nos. 01-85-795 and 02-83-795) have been maintained and renewed continuously since first being issued.

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157 Acid Rain Program Benefits Exceeds Expectation, USEPA Clean Ai Market Programs: http://www.epa.gov/capandtrade/documents/benefits.pdf , and Considerations For Low Sulfur Coal Blending At B. L. England Station, Russell, *et al.*

158 *See* Figure 1.

159 72 Stat. 339 Public Law 85-508 (1958).

160 43 U.S.C. § 1601, *et seq.*

161 Alaska Department of Natural Resources, 1996, 1990s land selection project, final State of Alaska land selection from federal public domain lands, final report draft: ADNR Division of Land, Resource Assessment Section (May 29, 1996), 164p.

162 DNR case file abstracts.

163 Mental Health Annotated Chronology (updated July, 1991), at 1.

164 PacRim comment letter January 19, 2010, at 3.

165 Beluga (Center Ridge) Exploration Permit # 01-84-795.

58. The coal leases currently issued to PacRim (ADLs 36911, 36913, 36914, 37002, and 59502) were originally issued as Coal Prospecting Permits (CPPs) in early 1968. These CPPs were converted to Coal Leases in May of 1972 and 1978. The coal leases issued to the Barrick/Beluga Coal Company (ADLs 33795, 36282, 37471, 56982, 79816, 56982, and 79816) were issued as CPPs in 1967 and 1968, and converted to Coal Leases over a period between 1971 and 1976.

59. The State of Alaska and the Kenai Peninsula Borough have long recognized the potential importance of this resource to the people of Alaska. Land use plans, specifically the 2000 Kenai Area Plan,[166] and -- although no longer controlling -- the area's predecessor plan, the 1985 Susitna Area Plan for Management Unit 3,[167] identified and designated state land in the petition area for coal mineral development and activities. The planning processes for these two area plans were subject to extensive public review and comment. The Kenai Peninsula Borough's 2005 Comprehensive Plan and the 1988 Chuitna Area Resource Development Plan recognize coal as an economic resource within the Chuitna watershed.[168] The 2000 Kenai Area Plan states that these resources should "[c]ontribute to Alaska's economy by making subsurface resources available for development, which will provide job opportunities, stimulate economic growth, and establish a source of state revenues."[169]

60. Within the watershed there are currently two active coal exploration projects, PacRim's Chuitna Coal Project and Beluga Coal Company/Barrick's Beluga Coal Project. Coal reserves in the Chuitna River basin are estimated at 2.2 billion MT.[170] Estimated reserves within the Pac Rim Coal Leases are reported to be 771 million MT.[171] Areas leased as part of Beluga Coal Project are estimated to hold 600 million MT.[172] These project estimates do not include significant reserves located on CIRI lands and Trust lands not currently under lease within the watershed.

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166 2000 Kenai Area Plan at 3-296 to 3-298, 3-308, and 3-313.
167 1985 Susitna Area Plan at 295-97.
168 2000 Kenai Area Plan at 3-296 to 3-298, 3-308, and 3-313.
169 2000 Kenai Area Plan at 2-34.
170 DDS-77, Alaska Coal Geology, Resources, and Coalbed Methane Potential by Romeo M. Flores, Gary D. Stricker, and Scott A. Kinney, 2004.
171 ALASKA'S MINERAL INDUSTRY 2007: A SUMMARY, D.J. Szumigala and R.A. Hughes, at 11.
172 DDS-77, Alaska Coal Geology, Resources, and Coalbed Methane Potential by Romeo M. Flores, Gary D. Stricker, and Scott A. Kinney, 2004.

61. Work on the Diamond Shamrock Chuitna Coal Project (predecessor to PacRim's Chuitna Coal Project) intensified in the early to mid-1980s, with compilation of environmental baseline studies, preparation of mine engineering plans, market studies, and measurement of coal reserves, as well as applications for permits. In 1985, the Diamond Shamrock Chuitna Coal Project applied to the state for a permit to mine and DNR issued a permitting decision in 1987 approving the project, which then DNR Commissioner Judith Brady affirmed, with minor modifications, upon reconsideration in 1988.[173] The EPA prepared the 1990 FEIS and issued its 1990 ROD in accordance with the National Environmental Policy Act (NEPA),[174] along with a national pollutant discharge elimination system permit (NPDES or wastewater discharge permit)[175] for the project. ADF&G issued Fish Habitat Permits for in-stream mining in one of the area streams (Stream 2003) and approved the sedimentation pond construction in the same vicinity. Subsequently, Diamond Shamrock did not proceed with the project due to economic conditions.

62. More recently, during the early to mid-2000s, coal prices began to rise and PacRim has renewed efforts to develop the project as the Chuitna Coal Project. PacRim applied for an NPDES permit triggering the need for a Supplemental EIS (SEIS) in 2006 that is in ongoing preparation. PacRim is also preparing new mine applications for an updated and reconfigured operation.

63. DNR has determined that, from a logistical and operational standpoint, because of the area that petitioners have delineated for a lands unsuitable determination, designation of those lands as unsuitable for surface coal mining operations would significantly fragment the coal resource within the watershed. This conclusion is based on simple geometry; the mosaic that would be created by the petition and overlay the footprint of the proposed Chuitna coal mine would leave almost no place for such a mine to fit and produce at an economic level.[176] Thus, it is DNR's opinion that this designation and the resulting fragmentation of the coal

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[173] Environmental groups administratively appealed DNR's 1987 Permitting Decision, which was ultimately litigated in state court, with Alaska Supreme Court issuing a decision in 1992. *Trustees for Alaska v. Gorsuch*, 835 P.2d 1239.
[174] 42 U.S.C. § 4321, *et seq.*
[175] 33 U.S.C. § 1342.
[176] *See, e.g.,* Figure 4 attached to this decision.

resource would negatively impact the economics of coal development on undesignated lands within the watershed.

64. The demand for coal in the United States and foreign markets has steadily increased over the last 50 years and coal is expected to remain an important energy source into the future.[177] The U.S. Department of Energy has projected national coal consumption through 2035.[178] Even so, coal energy faces competition from other energy sources, such as natural gas and oil, as well as the evolving solar and wind energy sectors.[179] This competition will affect market demand for coal in domestic and foreign markets, but it will not eliminate coal as one of the world's principal energy resources.[180] The U.S. Energy Information Administration predicts that coal use will continue to grow, with most of it destined to generate electricity and the production of synthetic liquids.[181] The report predicts that coal will remain the largest source of electrical generation through 2035.[182]

65. In 2010, the United States produced approximately 984 million MT of coal.[183] Of that amount, approximately 74 million MT were exported to foreign markets.[184] In 2010, the primary destination for U.S. coal exports was the European market, with approximately 38 million MT delivered to various European countries.[185] The European market was followed by markets in Asia, North America, South America, and Africa, in order of decreasing imports of US coal.[186] Within the United States, the primary destination in 2010 of all coal produced is for electrical generation (885 MT); the other use is for steel production.[187]

66. Regarding the demand for, and supply of, Alaska coal, there is currently one active producer in Alaska, Usibelli Coal Mine in Healy, Alaska. In 2010, Usibelli

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177 J. Fallows, *Dirty Coal, Clean Future*, The Atlantic Magazine (noting that coal produces approximately 46% of U.S. electricity), http://www.theatlantic.com/magazine/archive/2010/12/dirty-coal-clean-future/8307/ .
178 *Id.*
179 *Id.*
180 *Id.*
181 Annual Energy Outlook 2011, U.S. Energy Information Administration, April 2011, at 85.
182 *Id.* at 49.
183 U.S. Coal Summary Statistics; U.S. Energy Information Administration January 2011, http://www.eia.gov/cneaf/coal/quarterly/html/tes1p01p1.html .
184 *Id.*
185 U.S. Coal Supply and Demand: 2010 Year in Review by Watson, *et al.*
186 *Id.*
187 *Id.*

produced approximately two million MT of coal.[188] Approximately half of this was shipped to overseas markets including Chile, South Korea, and Japan. The rest of the coal produced by Usibelli is used at power plants located in Interior Alaska. The amount of coal used at six interior power plants is approximately a million tonnes a year and is not expected to increase in the near future.[189] The demand from overseas markets for Usibelli coal has been steadily increasing. Usibelli reported a 24% increase in exports over the same period in 2009.[190] Statewide, DNR has observed an increased interest by companies looking at Alaska coal for overseas markets as seen by an increase in requests to DNR for information on coal resources, particularly those in Southcentral Alaska. Also, "Alaskan coals have a lower sulfur content (averaging 0.3 percent) than most coals in the conterminous United States and are within or below minimum sulfur value mandated by the Clean Air Act amendments"[191], thus making Alaska coal an environmentally attractive fuel source.

67. There are two other projects approaching development and actively developing information to acquire permits. The first is the proposed Chuitna Coal Mine, through which some of the petition area crosses. At full production, this project is estimated to produce 12 million MT of coal per year, with an estimated mine life of 25 years.[192] Any coal produced from this project is expected to be exported to overseas markets. The other coal project in Southcentral Alaska that may start production in the relatively near future is Usibelli's Wishbone Hill Project. The potential minable reserves at this project are estimated at 14 million MT.[193] This project is proposed to produce less than a million MT a year of coal for the export market.[194]

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[188] *Usibelli 2010 Coal Sales Set New Record* (North of 60 Mining News Dec 2010).
[189] This statement does not include the Healy Clean Coal Plant becoming operational in the next several years. Golden Valley Electric Association is currently exploring the possibility to bring this power plant online. If so, it would require approximately 200,000 tons of coal a year to produce 50 megawatts of power.
[190] *Usibelli 2010 Coal Sales Set New Record* (North of 60 Mining News Dec 2010).
[191] Flores, *et al.*, Alaska Coal Geology, Resources, and Coalbed Methane Potential (Nov. 2005), at USGS website: http://pubs.usgs.gov/dds/dds-077/.
[192] Applicant's Proposed Project (as of April 2011), at 2, EPA's website for Proposed Chuitna Supplemental Environmental Impact Statement (SEIS), http://www.chuitnaseis.com/seis-process.html.
[193] Usibelli Coal Mine website: http://www.usibelli.com/Coal_leases.asp .
[194] Usibelli Coal Mine, Inc., 2011 Wishbone Hill Mine, information and frequently asked questions, website: http://www.usibelli.com/wishbone-brochure-web.pdf .

68. Regarding the economy of Alaska and its coal mining regions, the estimated value of Alaska coal in 2009 was approximately $65 million.[195] Based on the 2007-2009 values, the estimated value of coal produced in 2010 will be over $75 million.[196] The currently active Usibelli Coal Mine provides 130 full time jobs.[197] This number does not include additional jobs provided by support services and vendors. Using the most recently available information for the value of coal produced at Usibelli Coal Mine, the value of the coal produced at the proposed Chuitna coal project at full production would be approximately $430 million a year. According to the project description for the proposed Chuitna Coal mine, the project would employ up to 250 workers.[198]

Petitioners' Interests and Standing

69. Based on the petition, it appears that the Chuitna Citizens Coalition has provided sufficient information to support that at least three of its members -- Judy Heilman, Larry Heilman, and Terry Jorgensen -- have interests that could be adversely affected if surface coal mining operations occurred on some portion of the petition area, and that Chuitna Citizens Coalition, by virtue of these members' interests, therefore has standing to seek this merits review of the petition under AS 27.21.260. The Heilmans are residents of Beluga, one of two communities adjacent to the lowest reaches of the petition area,[199] and they use the petition area for various fish and game opportunities, though it is unclear where within the petition area they conduct these uses. Mr. Jorgenson routinely conducts commercial fishing activities near Ladd Landing in Cook Inlet, in a location approximately one mile from the mouth of the Chuitna River at its confluence with Cook Inlet. All three express general environmental concerns about potential impacts from coal mining operations in the

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[195] Szumigala, D.J., Harbo, L.A., and Hughes, R., *Alaska's Mineral Industry 2009*, Alaska Division of Geological and Geophysical Surveys Special Report 64, at 28, 82p.
[196] *Id.*
[197] The Economic Benefits of Alaska Mining Industry January 2010, Alaska Miners Association.
[198] Applicant's Proposed Project (as of April 2011), at 6, http://www.chuitnaseis.com/seis-process.html.
[199] *See* Figures 1 and 2.

watershed and how those operations might affect their interests, but they provide little other detail in describing their interests.[200]

70. It is not clear that these members' interests would be affected by mining activities that might occur throughout the entire petition area. Former Commissioner Irwin had urged petitioners in his decision on the 2007 Petition to provide "evidence that supports the scope of the lands requested for designation bears some reasonable correlation to the asserted allegations [and] petitioners' interests."[201] In his decision, Commissioner Irwin also cited and quoted a 2006 OSM decision involving a large petition area that echoed his concern:

> Even though there is no specific size limit for a petition area, a basic regulatory criterion is that the petitioner must present "allegations of fact and supporting evidence, *covering all lands in the petition area*, which tend to establish that the area is unsuitable for all or certain types of surface coal mining operations" [30 CFR 764.13(b)(1)(v)]. Therefore, the large size of the petition area means that it is unlikely that the evidence presented can relate to the criteria for designation throughout the entire petition area. This is consistent with OSM's comments in the 1983 preamble that "OSM has found that under the previous regulation, very large areas for which no evidence was presented were included in petitions (Alton petition, Tongue River petition), thus requiring significant efforts by OSM and other interested parties on issues of questionable merit," 48 FR 41329 (September 14, 1983).[202]

71. While there are concerns that petitioners still have not provided, with this new petition, the evidence to sustain a review of the entire area for which they seek designation, and that these specific members' interests are actually more narrowly concerned with the site-specific Chuitna Coal Project, this decision nonetheless reflects consideration of the entire petition area, and not just areas where

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[200] Petition at 12-13.

[201] July 16, 2007 decision on 2007 petition. *See also, id.*, at 6, 9, 10, 11, and 12 (stating, *e.g.*, that "petitioners have failed to sufficiently describe how any of the allegations and any particular type of coal mining activities that might occur on the petitioned lands would adversely affect petitioners' various interests"). And, as the Trust points out, a good deal of the land which the petition area traverses, such as Stream 2003 across the LMU-1 land leased by PacRim Coal, is 10 miles away from the Beluga community, and is "remote and inaccessible without written authority from TLO," and not located within any residential viewshed. Trust's January 5, 2011 comment letter on the petition, at 5.

[202] July 16, 2007 Decision, at 13-14, n. 11 (emphasis added), quoting OSM's January 13, 2006 Statement of Reasons for Determination of Completeness for the New River Lands for Mining Petition, at 12, in which OSM returned the petition to petitioners as incomplete and without merit. The OSM statement on the New River petition is available on OSM's website, http://www.osmre.gov/resources/newsroom/News/Archive/2006/011306.pdf .

coal mining might affect the community of Beluga and nearby lands, or the proposed Ladd Landing location (which proposed site is also actually outside the delineated petition area).

72. Cook Inlet Keeper, the second organizational petitioner, stated that it "combines advocacy, education, and science toward its mission to protect Alaska's Cook Inlet watershed and the life it sustains."[203] It cites the goals of preserving clean water, abundant fish and wildlife, and other policies "that are necessary to sustain healthy communities and strong local economies."[204] Cook Inlet Keeper asserts that it has members who live and undertake activities and work throughout Cook Inlet, and that it has members in the area that would be directly and adversely affected by mining activities in the Chuitna watershed.[205]

73. The statutory standing requirements require a sufficient description of how a petitioner's interests would be adversely affected with respect to both the potential coal mining activities, as well as to the lands for which designation of unsuitability is sought.[206] General assertions regarding an organization's goals or mission do not, alone, establish that a person (in the organization's case, a member) is adversely affected," nor does the general assertion that members are "directly affected," without more evidence demonstrating direct affects, necessarily support standing.[207]

74. While it is questionable whether Cook Inlet Keeper has provided adequate information to show its members' interests could be adversely affected by coal mining activities anywhere within the petition area, Chuitna Citizens Coalition has substantiated that at least three of its members' hold such interests, at least for portions of the petition area, and therefore the petition is subject to this merit review.

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[203] Petition at 13.
[204] *Id.*
[205] *Id.*
[206] AS 27.21.260(b).
[207] *Sisters of Providence in Washington, Inc. v. Department of Health and Social Services*, 648 P.2d 970 (Alaska 1982).

Intervenors' Interests

75. The three intervenors on the petition hold unique interests, including significant property interests, which could be adversely affected if the petition area is designated unsuitable for surface coal mining.

76. In accordance with the land conveyance system established under ANCSA,[208] the surface estate of 47,000 acres in the Chuitna watershed have been conveyed to the local Village Corporation, TNC, and the subsurface estate for that acreage was conveyed to a Regional Corporation, in this instance CIRI. TNC asserts that responsible coal mining in the Chuitna watershed, throughout which the delineated petition area meanders, would bring economic development, infrastructure projects, and job opportunities for the benefit of its shareholders, approximately 200 of whom live in the Village of Tyonek. TNC describes that at present this is especially true with respect to PacRim's Chuitna Coal Project, and TNC has entered into contracts with PacRim which relate to development of the project. The same benefits for TNC shareholders could also be realized through contractual relationships if CIRI were to pursue coal mining in the future. In addition, were CIRI to develop coal resources in the Chuitna watershed, all shareholders of Alaska Native Corporations, including TNC shareholders, will receive dividends and other potential benefits through revenue-sharing required under ANCSA.[209] TNC also cites other non-coal economic development plans that it wishes to undertake, but those plans are predicated on development of coal mining activities in the petition area. If the petition area is designated unsuitable for surface coal mining, TNC expects the designation will frustrate or deprive TNC's ability to secure economic benefits for its shareholders.[210]

77. The Trust owns a large portion of the lands in the petition area, and efforts to obtain that ownership go back to 1960.[211] The Trust Land Office (TLO) manages Trust lands, and its "primary responsibility is to maximize revenue from Trust land over time and to protect and enhance the value of Trust land … on behalf of Trust beneficiaries."[212] The Trust is a state corporation that administers the Alaska Mental Health Trust, whose beneficiaries include individuals with mental illness,

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208 43 U.S.C. § 1613.
209 43 U.S.C. § 1606(i) and (j).
210 TNC's January 5, 2011 comment letter on the petition.
211 DNR Land Administration System case file abstracts.
212 Trust's January 5, 2011 comment letter on the petition, at 2.

developmental disabilities, chronic alcoholism and Alzheimer's disease and related dementia.[213] The TLO is obliged to consider a number of trust management principals in managing the Trust's assets, including "maximization of long-term revenue from trust land," "protection and enhancement of the long-term productivity of trust land," and "encouragement of a diversity of revenue-producing uses of trust land."[214] Many of these lands are coal-bearing, and a significant subset of these lands is leased to PacRim Coal, including the Chuitna Coal Project area (*e.g.*, LMU-1). If coal production at the Chuitna Coal Project occurs, TLO estimates that it will provide significant revenue to the Trust over time, generating a 5% royalty that would equate to $300 million dollars over the 25-year projected life of the mine. If the petition area is designated unsuitable for surface coal mining and the effect of that designation deters coal mining at the Chuitna Coal Project, TLO will not be able to attain these royalties for mental health programs that support Trust beneficiaries.[215]

78. PacRim holds the leases for coal deposits in the petition area. These leases originated more than 30 years ago.[216] As noted earlier, many of the petition's allegations, supporting evidence, as well as public comment, focus on PacRim's efforts to develop the Chuitna Coal Project. PacRim has made a significant financial investment in its efforts to develop the project.[217] As PacRim notes, the predecessor Diamond Shamrock Chuitna Coal Project was designed and permitted in the late 1980s and early 1990s, but due to market conditions, the project did not go forward. PacRim has restarted efforts to obtain new permits for the Chuitna Coal Project, and is working with the federal agencies on preparation of a SEIS. PacRim's more recent efforts have been underway since 2005.[218] Thus, if the petition were granted, PacRim's property interests would be adversely impacted.

79. Attached Figure 2 delineates surface estate ownership within the Chuitna watershed. With the exception of TNC, all of the entities listed also own the subsurface estates, including the right to any coal resources and the financial returns

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213 Trust website, http://www.mhtrust.org/layouts/mhtrust/files/documents/about_aboutdocs/Trust_Overview_update2011.pdf .
214 11 AAC 90.020(c).
215 *Id.*
216 PacRim's January 19, 2011 comment letter on the petition, at 2.
217 PacRim's January 5, 2011 comment letter on the petition, at 1.
218 PacRim's January 19, 2011 comment letter on the petition, at 2.

from the extraction and sale of that coal. As noted earlier, CIRI owns the subsurface estate to TNC's lands. And, as Figure 2 shows, the petition area meanders throughout the larger Chuitna watershed area.

Consequences Associated with Granting, Granting in Part, or Denying the Requested Unsuitability Designation

80. In rendering a decision on a petition, a number of alternative outcomes can be reached, and with each come certain consequences. These outcomes include: designating the petition area in its entirety as unsuitable for surface coal mining operations; designating only a portion of the petition area as unsuitable; denying any of the petition area as unsuitable; or denying to designate any of the petition area as unsuitable but setting forth conditions to apply to future coal mine permitting. Each option is discussed below.

A. Consequences of Designating the Petition Area in its Entirety as Unsuitable for All Types of Surface Coal Mining Operations

81. In order to designate the petition area in its entirety, the Commissioner would have to find from a review and evaluation of the petition's allegations that the mandatory or discretionary criteria applicable to the allegations are supported by competent and scientifically sound data and information, and consider planning activities of federal, state, and local governments.[219] From an on-the-ground disturbance perspective, designation of the entire delineated petition area as unsuitable for all types of surface coal mining operations (including activities to extract the coal and to transport the coal from the deposit site to Cook Inlet shore facilities), as the petition requests, would essentially eliminate the potential future impacts of those operations to the petition area's current environmental condition.

82. However, the actual consequences of granting the requested designation would likely have farther-reaching geographical ramifications beyond the identified streambed and riparian land features delineated by petitioners in the petition. While coal exploration could still occur in the designated area,[220] and coal mining could theoretically occur outside the petition area within the Chuitna watershed, it is DNR's

[219] AS 27.21.260(a) and AS 27.21.260(c).
[220] AS 27.21.260(h).

judgment that the designation would likely render most, if not all, coal mining in the watershed economically unfeasible to efficiently extract and transfer coal out of the watershed, given the fragmenting effect that the designation would have on the watershed's coal resources. This conclusion is based on simple geometry; the mosaic that would be created by the petition and (at the same scale) overlay the footprint of the proposed Chuitna coal mine, existing Usibelli coal mine, or the proposed Wishbone Hill mine, there is almost no place where such a mine could fit and produce at an economic level.

83. Thus, if the petition area were designated in its entirety for all types of surface coal mining operations, it is likely that the larger Chuitna watershed, *i.e.*, the petition area's streambeds and associated riparian areas, as well as other lands, vegetation, soils, hydrological regime, and the areas used by fish and wildlife surrounding the petition area, would not be impacted by coal mining development and operations. In the absence of feasible mining projects, and absent any changes to land management plans or uses, an area more expansive than the petition area -- quite likely the 96,000 acres of the Chuitna watershed -- would essentially remain as it is today. The area would only reflect impacts from those activities that variably have occurred in the area over the past several decades, activities which include coal exploration, recreational and subsistence uses, fishing and hunting, fulltime and seasonal residential use, episodic road building, natural gas exploration and production projects, and logging activities.[221]

84. The requested designation, if granted, and the ramifications perceived from that designation for surface coal mining in the greater Chuitna watershed, would mean that up to 2.2 billion MT of low sulfur, cleaner burning coal present in the Chuitna watershed, could not be extracted and used for power generation. Land owners in the area would not be able to realize -- for themselves or for those members on whose behalf they manage the coal resource in trust -- financial gains and program benefits from the extraction and sale of that resource. No local employment (such as the potential 250 direct jobs relating to the Chuitna Coal Project) would be realized from surface coal mining activities. Future surface coal mining in the area could only

[221] OASIS Environmental Inc., *Land Use Baseline Summary Report for the Chuitna Coal Project*, (October 2006).

be conducted if the unsuitability designation were terminated through a petition.[222] The possibility of terminating a designation means that the coal resource is not irreversibly lost.

85. Based on Department of Energy data, while national coal consumption should not, at least in the foreseeable future, be limited by supply constraints caused by a designation of the petition area, the low-sulfur content of the watershed's coal resources and its resultant cleaner-burning fuel emissions provide incentive for seeking to develop this coal resource.

B. Consequences of Designating Parts of the Petition Area as Unsuitable for All or Certain Types of Surface Coal Mining Operations

86. The petitioners have not requested, as an alternative, that only certain portions of the petition area be designated as unsuitable, nor have they specified a narrower range of types of surface coal mining operations that could be prohibited, while other operations could be permitted. Nonetheless, the Commissioner has the authority, based on a review of a petition, to designate a more discrete portion or portions of the petition area as unsuitable for surface coal mining operations, or to prohibit some rather than all types of surface coal mining activities if he or she finds such action is warranted, and in accordance with applicable statutory and regulatory criteria. In order to designate any portion of the petition area as unsuitable for surface coal mining operations, the Commissioner would have to find from a review and evaluation of the petition's allegations that the mandatory or discretionary criteria applicable to the allegations are supported by competent and scientifically sound data and information, and take into consideration planning activities of federal, state, and local governments.[223]

87. For more discrete portions of the petition area that may, as a consequence of the evaluation, be designated by the Commissioner as unsuitable for all or certain types of surface coal mining, the on-the-ground consequences would generally be similar to those if the entire petition area were designated, except not on a watershed-wide scale. For example, if only streambeds and riparian areas within the LMU-1 lands were designated as unsuitable, while that, due to feasibility factors,

[222] AS 27.21.260(b).
[223] AS 27.21.260(a) and AS 27.21.260(c).

would likely preclude any mining at all for the LMU-1 lands as part of the Chuitna Coal Project, it probably would not preclude surface coal mining operations elsewhere in the larger Chuitna watershed -- although those other operations may have fewer infrastructure options (*e.g.*, potential shared port facility) in the absence of the Chuitna Coal Project. It is likely that the partial designations would mean that streambeds, associated riparian areas, wetlands, vegetation, soils, hydrological regime, and the areas used by fish and wildlife through which the petition area crosses would not be impacted by coal mine development and operations.

88. Partial designation also would likely mean that coal resources for those designated areas would not be extracted or sold, due to feasibility factors. For example, if streambeds and riparian areas within the LMU-1 lands were designated, it is unlikely that it would be feasible to mine the LMU-1 area, and that would mean that at least 300 million MT of low sulfur, cleaner burning coal present in the area would not be extracted and used for power generation. The Trust land owner would not realize -- for the benefit of those beneficiaries on whose behalf the TLO manages the coal resource -- financial gains and mental health program improvement from the extraction and sale of that resource, and that unrealized gain, based on a 5% royalty, could equate to as much as $300 million dollars. Local employment anticipated from the potential 250 jobs relating to the Chuitna Coal Project would not be realized. Future surface coal mining in the designated portion could only be conducted if the unsuitability designation were terminated through a petition.[224] The possibility of terminating a designation means that the coal resource is not irreversibly lost.

89. Based on Department of Energy data, while national coal consumption should not, at least in the foreseeable future, be limited by supply constraints caused by a designation of a portion or portions of the petition area, the low-sulfur content of the watershed's coal resources and its resultant cleaner-burning fuel emissions provide incentive for seeking to develop this coal resource.

C. Consequences of Denying Designation of the Petition Area in its Entirety

90. The Commissioner may find that there is insufficient evidence to support the allegations and deny the designation of the petition area in its entirety.

[224] AS 27.21.260(b).

Nevertheless, and this point must be emphasized, such denial would *not* constitute approval of surface coal mining operations in the petition area, and those approvals would still need to be gained through project-specific permitting processes conducted by multiple state and federal agencies.

91. Because denial to designate any portion of the petition area would mean that the area is not closed to potential future coal mining, this decision would leave open the possibility of coal development, including the realization of potential financial and employment associated with coal mining activities, as well as the opportunity to develop low sulfur coal as a fuel burning resource on national and international markets.

92. At the same time, however, potential impacts to fish and wildlife, subsistence or recreational uses, water resources, air quality, soils, cultural resources, and esthetics (visual and noise), associated with surface coal mining activities may occur or be observed. The significant scale of those impacts would depend on a variety of factors, including the following: permit conditions placed on any specific coal mining operation; the scale of the coal mining operations (its footprint/size) and the anticipated mine life; the postmining land use; the viewshed(s) involved; and whether subsistence or recreational users have access or authority to access lands in a given project area.

D. Consequences of Denying Designation of the Petition Area, But Setting Forth Certain Requirements to Apply to Future Permits

93. As a consequence of evaluating the petition and a determination not to designate a petitioned area as unsuitable, the Commissioner may determine that certain requirements should routinely apply to coal mining permits issued in the future in order to mitigate potential impacts of any project-specific operations to the land and resources in the petition area.[225] However, the administrative record, including petitioner's allegations and evidence, would need to provide a basis for determining the need for any requirements that might be delineated in advance of project-specific permitting. Having evaluated the 2010 Petition and the administrative record, I do not find any evidence that would cause me to impose any mitigation

[225] 11 AAC 90.711(c).

requirements for coal mining operations in advance of project-specific permitting that may be proposed for the petition area.

The Petition's Allegations

Petitioners' Allegation I: For surface coal mining operations in the petition area, reclamation in accordance with ASCMCRA is not technologically feasible.

94. Under AS 27.21.260(c)(1), the Commissioner "shall designate an area as unsuitable for all or certain" coal mining activities "if the commissioner determines that reclamation in accordance with this chapter and regulations adopted under it is not technologically feasible." This provision is considered mandatory, that is, the Commissioner must designate lands as unsuitable if the Commissioner determines that reclamation in accordance with the applicable authorities is not technologically feasible.

95. At the outset of Allegation I, petitioners argue that reclamation is not technologically feasible under ASCMCRA. To support this argument, petitioners assert: (i) reclamation means that the disturbed areas are restored in a timely manner to conditions that support pre-mining land uses or "higher and better uses"; (ii) there is no "higher and better" use of this area than its pre-mining use as high quality fish and wildlife habitat; (iii) surface coal mining will "cause irreversible damage to fish and wildlife habitat;" (iv) reclamation cannot return the disturbed areas to pre-mining condition; and (v) therefore reclamation is not technologically feasible.[226] In essence, this is a syllogism. Coupled with this syllogism, petitioners argue that reclamation is not technologically feasible because mining operations cannot meet the state's "performance standards."[227] These arguments, which for reasons that are discussed in detail below, misstate and misapply the applicable law, and are constant themes threaded throughout Allegation I.

96. From this mistaken premise, petitioners' Allegation I makes four specific arguments to support their contention that reclamation of impacts from surface coal

[226] *Id.* at 14-16.
[227] *Id.* at 15-16.

mining activities in the petition area would not be technologically feasible.[228] These arguments are:

- construction and operation of a surface coal mine on the identified lands would irreparably harm the area's hydrologic balance;
- reclamation would not restore groundwater recharge capacity in the area;
- reclamation would not restore aquatic productivity to pre-mining levels; and
- surface coal mining in the identified lands cannot be designed and operated to minimize changes in water quality and quantity and hydrology enough to ensure no adverse effects to fish and wildlife habitat.

97. In reviewing petitioners' allegation that reclamation of impacts from surface coal mining activities in the petition area would not be technologically feasible, consideration was given to DNR's 1987 Permitting Decision on the Diamond Shamrock Chuitna Coal Project, the 1988 Administrative Appeal Decision affirming the 1987 Permitting Decision, EPA's 1990 FEIS and ROD on the same project, and the Alaska Supreme Court's *Gorsuch* decision on DNR's 1987 Permitting Decision. Additional background relative to these documents is required to understand why they are relevant to an analysis of petitioners' allegations that reclamation in the petition area in accordance with ASCMCRA is not technologically feasible. Significantly, these documents all contained findings, or affirmed findings, that reclamation in the petition area *would be* technologically feasible.

98. Based on the ASCMCRA permit application submitted on the Diamond Shamrock Chuitna Coal Project, DNR issued a permitting decision in 1987, approving the construction and operation of the proposed coal mine. The findings supporting DNR's approval are recorded in (1) a March 5, 1987, "Conditions of Decision and Findings of Compliance for the Diamond Chuitna Mine" and (2) an August 21, 1987, "Decision to Issue a Surface Mining Permit Diamond Shamrock Chuitna Coal Joint Venture Diamond Chuitna Mine." These documents were later combined into a single document referenced herein as the "1987 Permitting Decision." While the petitioners

[228] Petition, Allegation I, subparts A-D, at 14-33.

and intervenors cite the permitting approval in general ways, DNR made a number of key findings in these documents regarding reclamation and hydrologic impacts:

- Diamond Shamrock's Wetland Revegetation Plan satisfactorily addressed DNR's initial concerns about whether wetland habitat could be restored. The agency noted, however, that the plan would be subject to continuing DNR review and that, if appropriate, changes could be made to the plan during actual mine operation.[229]

- The project was subject to several DNR stipulations relative to reclamation measures and activities that would be required contemporaneous with mining. These included measures for sediment and drainage control (including sediment control ponds),[230] and measures for protecting surface and groundwater hydrology (including additional hydrologic monitoring).[231]

- In accordance with AS 27.21.180(c)(2), Diamond Shamrock had "demonstrated that reclamation as required by AS 27.21 and 11 AAC 90 can be accomplished under the reclamation plan," subject to DNR-required modifications.[232]

- In accordance with AS 27.21.180(c)(3), "an assessment of the probable cumulative impact of all anticipated mining in the area on the hydrologic balance has been made and the proposed operation has been designed to prevent material damage to the hydrologic balance outside the permit area."[233]

- Regarding stream restoration, DNR -- while acknowledging that "post-mining baseflows will take ten to fifteen years to reach pre-mining levels and that it was important that enhancement techniques be maintained until the pre-mining flows are reached" -- found that the application

[229] August 21, 1987 Decision (1987 Permitting Decision) on the Diamond Shamrock Chuitna Coal Project, issued by J.M. Brady, at 33-34.
[230] *Id.* at 40-42, and at 53-92 (consisting of an August 16, 1987 report prepared for DNR by Arctic Hydrologic Consultants that provides a technical review on the proposed Sediment and Drainage Control Plan).
[231] *Id.* at 44-48.
[232] *Id.* at 125, and at 326-361 (containing Section IV findings).
[233] *Id.* at 125, and at 362-404 (containing Section V findings).

complied with 11 AAC 90.327 (Stream Channel Diversion) for the initial permit term.[234]

99. On June 28, 1988, then DNR Commissioner Judith Brady adopted, with minor modifications, the Hearing Officer's May 21, 1988, proposed decision (1988 Administrative Appeal Decision) on the consolidated administrative appeals brought on the 1987 Permitting Decision by Trustees for Alaska, the project proponent Diamond Shamrock, and others. The Hearing Officer's proposed decision recommended certain modifications to the permitting decision, including lengthening the permit term from five to ten years.[235] Based on the administrative record, the Hearing Officer also found that "Diamond's reclamation plan, including its wetlands restoration plan, is sufficient to restore the disturbed area to a condition that is capable of supporting fish and wildlife."[236] With this 1988 Administrative Appeal Decision, Commissioner Brady affirmed the 1987 Permitting Decision.

100. EPA also conducted an environmental review of the proposed coal mine through its 1990 FEIS and issued a 1990 ROD approving the proposal. Thereafter, EPA issued an NPDES permit for the mine's wastewater discharges. In the two-volume 1990 FEIS and the 1990 ROD, EPA considered several factors and made a number of key findings:

- EPA considered numerous impacts the project potentially could have on the environment, including possible impacts to wetlands, subsistence, fish and wildlife, and associated habitat impacts.[237]
- EPA concluded that the area in which the project was to be located was not pristine. For example, it had been previously entered for logging and oil and gas purposes.[238]
- EPA stated the following regarding potential impacts to wetlands:

> The acidic, muskeg-type wetlands which are widely dispersed throughout the area are not highly productive and the net primary productivity of replacement communities could be as high or higher

[234] *Id.* at 202.
[235] 1988 Administrative Appeal Decision at 5-7.
[236] *Id.* at 33-35.
[237] 1990 FEIS at 5-11, 5-16, and 5-75.
[238] *Id.* at 5-136.

> than the communities that now exist. Therefore, adverse impacts to primary wetland productivity would not be significant on a regional scale. Food webs would be interrupted in the immediate vicinity of pre-mining wetland areas, but such interruption would probably not be significant on a regional basis because of the isolated nature of most area wetlands and the large extent of similar wetlands outside the project area.[239]

- EPA noted that the wetlands within the Diamond Shamrock Chuitna Coal Project area were similar to wetlands found outside the project area (i.e., the Chuitna watershed/drainage).[240]

- In the ROD, EPA stated that the authorizing agencies, including EPA and DNR, anticipated that reclamation within the project area would be undertaken in accordance with specific requirements, and therefore feasible.[241]

101. After the Commissioner upheld DNR's permitting decision upon appeal, multiple plaintiffs, including Trustees for Alaska, appealed the Commissioner's decision.[242] With the exception of one modification, which required a separate ASCMCRA permit for an eleven mile access/haul road from the mine site, the superior court upheld the permitting decision. Upon Trustees' appeal of the superior court's decision, the Alaska Supreme Court -- while remanding the decision to DNR for further consideration of cumulative effects of activities associated with the permit, and reconsideration of the reclamation bond amount -- addressed Trustees' contention that DNR erred in approving the proposed plan for restoration of ecological functions and revegetation. Among other things, the Court held:

- that DNR had found that the proposed reclamation and wetlands restoration plans for the leased lands were "sufficient to restore the disturbed area to a condition capable of supporting fish and wildlife."[243]

- that DNR acted reasonably in accepting the restoration plan, because the plan

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239 *Id.* at Appendix F, at 2-3.
240 *Id.* at 3.
241 1990 ROD at 6, and at 9-12. *See also* 1990 FEIS, at 2-31 to 2-34.
242 *Gorsuch,* 835 P.2d at 1239.
243 *Id.* at 1249.

> describes how wildlife habitat will be recreated by constructing peat-filled depressions which will be planted with various plant species. In addition, three sediment ponds will be inoculated with plant and insect life forms, and seedlings will be planted to provide a vegetation canopy layer for the benefit of wildlife.[244]

102. The petitioners fail to provide convincing evidence with their petition to suggest that anything has changed since DNR's 1987 Permitting Decision determining that the restoration and reclamation plans were sufficient (including to restore disturbed fish and wildlife habitats), EPA's 1990 findings that reclamation was feasible, and the *Gorsuch* decision, in which the Alaska Supreme Court upheld DNR's decision concerning the feasibility of reclamation. Nor is there any evidence in the administrative record, or in the petition, that justifies issuing a finding that contradicts these earlier decisions.

103. The findings and other information contained in the foregoing documents provide an important backdrop for the following discussion. Allegation I relies on a number of faulty premises, speculative information, misinterpretation of regulatory requirements and performance standards, a failure to assume that contemporary coal mining practices will be followed, as well as selective citation to information that, as a whole, does not support the contention that reclamation in accordance with ASCMCRA is not technologically feasible. Indeed, with respect to each of the petitioners' allegations (I, II, III, and IV), rather than assuming that contemporary mining practices will be followed and that any approved site-specific project must show it will comply with performance standards or the project will not be approved, the petitioners essentially assume that these practices and standards will *not* be met. That is not the basis upon which an unsuitability petition is reviewed and decided.[245]

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[244] *Id.*

[245] 11 AAC 90.701(a)(5)(a petition must assume "that contemporary mining practices required under AS 27.21 and this chapter would be followed if the area were mined"). *See also* AS 27.21.210 (stating that all permits issued under the Act shall require that surface coal mining and reclamation must comply with environmental performance standards). OSM has also stated that a petitioner "must assume that contemporary mining practices required under the applicable regulatory program will be followed." 48 Fed. Reg. 41312, 41328-29 (Sept. 14, 1983). *Accord In re Permanent Surface Mining Regulation Litigation*, 620 F. Supp. 1519 (D.D.C. 1985).

A. Petitioner's overarching assertion that reclamation requires restoration of the petition area to the premining condition and that there is no higher and better use of the area than for fish and wildlife habitat.

104. Petitioners' overarching assumption in Allegation I is that the petition area must be returned to its premining condition and that "there is no higher and better use" of anadromous water bodies and the riparian areas than to support fish and wildlife habitat.[246] This allegation calls into play the state's postmining land use regulation at 11 AAC 90.481, which states, in relevant part, the following:

> (a) All disturbed areas must be restored in a timely manner to conditions that are capable of supporting
>
> (1) the uses which they were capable of supporting before any mining; or
>
> (2) higher or better uses achievable under the provisions of this section.

105. Petitioners are mistaken that the petition area must be returned to its pre-mining condition for at least five primary reasons. First, as an initial matter, embedded in SMCRA and ASCMCRA is the recognition that coal mining will significantly impact an area.[247] Thus, state and federal law authorize surface coal mining despite its effects on the environment.

106. Second, petitioners' argument related to the appropriate postmining land use is premature. Under state law, determining the "higher or better" postmining use will be addressed during the permitting phase when the operator must present a postmining reclamation plan, which "must contain a detailed description of the proposed use, following reclamation, of the land to be affected by surface operations or facilities."[248]

107. Third, a petition must assume that "that contemporary mining practices required under AS 27.21 and this chapter would be followed if the area were mined."[249] DNR's regulation is consistent with federal law, where the OSM has also

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246 Petition at 15.
247 30 U.S.C. § 1202; AS 27.21.010. This issue is discussed in more detail below.
248 11 AAC 90.087.
249 11 AAC 90.701(a)(5).

stated that a petitioner "must assume that contemporary mining practices required under the applicable regulatory program will be followed."[250] Yet petitioners turn this standards on its head -- i.e., Trustees argues that "in order for reclamation in accordance with SMCRA and ASCMCRA to be considered feasible, it must meet the performance standards that the DNR has established to . . . . Surface coal mining and reclamation on lands within the Chuit River watershed . . . would be incapable of meeting a number of these performance standards[.]'"[251] Consequently, petitioners, by assuming that any mine in the Chuitna watershed will not be able to comply with DNR's performance standards, have misconstrued the petition process.

108. Fourth, petitioners fail to acknowledge that a mine operator will not receive the requisite permits if it cannot satisfy the performance standards set out in 11 AAC 90.481. Thus, to the extent that an operator cannot meet the performance standard cited by petitioners (11 AAC 90.481), it will not receive the requisite permits.

109. And fifth, petitioners assume inaccurately that an area's premining uses must dictate the appropriate postmining uses.[252] But one cannot simply assume that the premining land use is the "higher and better use" for an area. Instead, as discussed below, the landowner and the regulatory authorities determine the appropriate postmining land use.

110. More specifically, petitioners' arguments related to the "higher and better use" of these lands must be considered in connection with several other applicable provisions, including 11 AAC 90.481(c) and 11 AAC 90.087, area management plans,[253] as well as in consultation with the affected landowner.

111. State regulation defines "higher and better uses" as those "postmining land uses that have a higher value or other benefit to the landowner or community than the premining land use."[254] Determination of the postmining land use may be generally identified by the land owner prior to any coal mining activity, and then with more specificity in the permitting phase. Thus, there is no presumption, as petitioners assert, that the "higher and better" postmining land use for the petition area is the

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[250] 48 Fed. Reg. 41312, 41328-29 (Sept. 14, 1983).
[251] Petition at 16.
[252] Petition at 15.
[253] AS 27.21.260(a)(1).
[254] 11 AAC 90.911(50).

support of fish and wildlife habitat, although those uses would certainly be considered at the appropriate time. And under 11 AAC 90.481(c), when considering higher and better use, the Commissioner would consider measures to prevent or mitigate adverse effects on fish, wildlife, and related environmental values and threatened or endangered plants as identified and incorporated into the postmining land use plan, if appropriate.

112. As noted previously, ownership of land within the petition area and the larger Chuitna watershed is mixed, and consists of the following: State lands, private lands (with the surface estate belonging to Tyonek Native Corporation), CIRI lands, Kenai Peninsula Borough lands, Trust lands (managed by the Trust Land Office (TLO)), and parcels owned by private individuals. For those lands lying in the petition area, as well as for any areas in the larger Chuitna watershed, "higher and better uses" of these lands would be determined after consultation with the relevant land holders during the permitting phase of a specific coal mining project.

113. In its January 5, 2011, letter commenting on the petition, the TLO correctly points out some of the regulatory requirements applied in considering postmining uses:

> While fish and wildlife habitat may be an ancillary use of this land, the TLO is obligated to consider any viable use of this land in the future that could be (sic) produce benefits to The Trust and its beneficiaries. The TLO fully anticipates having input into the reclamation plan to enhance the value of this land for future uses. The provisions of 11 AAC 90.087 and 11 AAC 90.481 address post mining land use and provide that consideration be given to making the proposed operation consistent with surface owner plans and creating conditions that are capable of supporting higher and better land uses.[255]

Thus, for the Chuitna Coal Project, TLO is the landowner that has a major stake in determining, in consultation with regulatory authorities, the postmining land use for this specific project's affected area.

114. Moreover, as required by AS 27.21.260(a)(1), reviews of available land planning documents for the Chuitna watershed, through which the petition area meanders, have been conducted. Area plans provide a useful tool to guide permitting decisions both before and after mining.

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[255] January 5, 2011 Trust letter at 4.

115. The primary guide for state decisions on state land in the petition area is the 2000 Kenai Area Plan. This plan specifically excludes federal, borough, private, Native Corporation, and Trust Lands.[256] Prior to the transfer of landownership of the PacRim Chuitna coal leases to the Trust, those leased lands were owned by the State. Coal development was one of the primary uses designated for the area under both the 2000 Kenai Area Plan (specifically indentifying the "Chuitna Area Coal Leases")[257] and the previously applicable 1985 Susitna Area Plan.[258] The Kenai Area Plan anticipates mining of fish streams and fish habitat by noting that when DNR issues a permit for mining in or adjacent to a fish stream, the activity will be conditioned by the permit to be protective of fish, and noting that mining in fish streams requires permits from DEC and ADF&G.[259] The 2000 Kenai Area Plan also states that the postmining land use is to "provide high value habitat for moose and provide water quality for downstream fisheries."[260] With the transfer of ownership of the lands, identification of postmining land uses are subject to the Trust's discretion.[261]

116. Review of the Kenai Peninsula Borough's 2005 Comprehensive Plan shows that it recognizes coal as an economic resource within the borough, but does not specifically discuss land use plans within the watershed. The 1988 Chuitna Area Resource Development Plan discusses the borough's "keen interest in potential large scale development of coal"[262] in the Chuitna watershed, including roads, conveyors, and ports, but does not discuss postmining land use. Instead, it relies on the State's planning documents to guide land use. The remainder of the land is either Native Corporation or Mental Health Trust lands which are guided by their own planning and development strategies, and these landowners support responsible coal mining operations.

117. For the foregoing reasons, the petitioners' allegation rests on a misinterpretation of the regulatory requirements and the misapplication of these

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256 2000 Kenai Area Plan at 1-9.
257 *Id.* at 3-308.
258 1985 Susitna Area Plan at 295-96.
259 2000 Kenai Area Plan at 2-34.
260 *Id.* at 3-307.
261 Transfer of ownership of lands within the petition area, including the PacRim leased lands, to the Trust, had actually been contemplated since 1956, but delayed due to litigation. Transfer of the lands was finalized in 2010. Case abstracts for ADLs 36911, 36913, 36914, 37002, and 59502.
262 Kenai Peninsula Borough's 2005 Comprehensive Plan at I-1.

requirements. The above discussion shows that the determination of the postmining land use is at the discretion of the landowner, with some input and approval necessary by the regulatory authority, and that, as a practical matter, postmining land uses are more formally fashioned during the permitting phase of a specific proposed coal mining operation. Therefore, declaring that there can only be one higher and better use at this stage is premature.

B. Petitioners' allegation that construction and operation of a surface coal mine in the petition area would irreparably harm the area's hydrological balance.

118. Petitioners' contend that surface coal mining would irreparably harm the area's hydrological balance, destroying streams, riparian areas and wetlands in the Chuitna watershed, and dramatically affecting the local hydrology.[263] To support this argument, petitioners cite one performance standards (11 AAC 90.321) that protects the area's hydrologic balance and claim that a coal mine in the petition area cannot meet this standard.

119. The petitioners' argument is unavailing because they (i) take the apparent position that coal mining operations can have no adverse impacts on areas where mining activities occur; (ii) improperly assume that performance standards will not be followed; and (iii) ignore several other performance standards that would apply to any coal mining operations in the area to protect the Chuitna watershed's hydrological balance.[264]

120. Both Congress and the Alaska Legislature, in respectively enacting SMCRA and ASCMCRA, anticipated that adverse impacts will necessarily occur during construction and coal mining. Indeed, the provisions contained in SMCRA and ASCMCRA recognize that coal mining will have impacts to surface and groundwater within the disturbed mining area and that a balancing of resource development and environmental protection is necessary.[265] The legislative history and discussion related to hydrologic balance assumes that there will be significant impacts within the

[263] Petition at 16-29.
[264] These include the following regulations set out in Article 11, Chapter 90, of the Alaska Administrative Code: .311, .313, and .315, regarding removal, conservation and storage, and reapplication of top soil; .343, .085, regarding preventative practices that must be taken to prevent long-term adverse changes to area hydrology; .451, .453, .455, and .457 regarding measures for revegetation during reclamation.
[265] 30 U.S.C. § 1202; AS 27.21.010.

mine area itself: "The total prevention of adverse hydrologic effects from mining is impossible and thus the bill sets attainable standards to protect the hydrologic balance of impacted areas within the limits of feasibility."[266] Put simply, the standard for a lands unsuitable petition and a mandatory designation is not whether operations will have substantial impacts as petitioners allege at times, but rather whether there will be irreparable harm that makes reclamation in accordance with ASCMCRA technologically infeasible.

121. To reduce, reclaim, and avoid coal mining's adverse impacts, state law imposes performance standards and reclamation requirements. For purposes of the petition, we must assume the performance standards will be followed.[267] 11 AAC 90.321 (Hydrologic Balance) provides performance standards that, among other things, require that "[o]perations must be planned and conducted to prevent long-term adverse changes in the hydrologic balance *in both the permit area and adjacent areas*."[268] The regulation also provides that "[c]hanges in water quality and quantity, in the depth and flow patterns of ground water, and in the location of surface and subsurface drainage channels must be minimized so that the approved postmining land use of the permit area is not adversely affected."[269] Further, an "operator shall comply with all applicable federal and state water quality statutes and regulations."[270] A recurring flaw in the petitioners' argument is the assumption that a permitted project would not be held to these performance standards.[271] This position directly conflicts with what the law requires, which is the presumption "that contemporary mining practices required under AS 27.21 and this chapter would be followed if the area were mined."[272]

122. The petition correctly states that reclamation consists of those actions taken to restore mined land as required by AS 27.21 and 11 AAC 90. But petitioners

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[266] H.R. REP. No. 218, 95th Cong. 1st Sess. 109 (H.R. 2 April 22, 1977). *Elements of mine regulation program; Mining impacts on hydrologic balance*, OSMRE COALEX Report at 235.
[267] AS 27.21.210; 11 AAC 90.701(a)(5).
[268] 11 AAC 90.321(a) (emphasis added).
[269] 11 AAC 90.321(b).
[270] 11 AAC 90.321(c).
[271] *See, e.g.,* Petition at 16.
[272] 11 AAC 90.701(a)(5). *See also* AS 27.21.210 (stating that all permits issued under the Act shall require that surface coal mining and reclamation must comply with environmental performance standards).

presume that restoration must be to the premining use. As discussed above, such a standard is not supported by statute or regulation.

123. The petitioners state that some of the wetland types within the Chuitna watershed (not just the petition area), specifically fen and bog wetlands, are difficult, if not impossible, to restore.[273] The argument that there should be no impacts to wetlands or that the same type of wetland needs to be reclaimed is not supported by the applicable law. Instead, the reestablishment of wetlands is based on the approved postmining land use and any proposed project meeting the requirements of 11 AAC 90.337 – 317 dealing with topsoil, 11 AAC 90.321 dealing with the protection of hydrologic balance, 11 AAC 90.451 dealing with revegetation, and 11 AAC 90.451 dealing with standards for assessing revegetation success.

124. Petitioners' argument also overlooks the fact that state and federal agencies have made findings that reclamation in this area is technologically feasible. In the 1990 FEIS on the Diamond Shamrock Chuitna Coal Project, EPA stated that "[r]eclamation of the mine area would at least partly reverse the ground-water impacts from mining. After removal of the surface-water diversion systems, surface water together with incident precipitation would recharge the underlying spoil materials and with time result in the reestablishment of a ground-water regime similar but not identical to the premining condition."[274] DNR also found in its 1987 Permitting Decision that reclamation of the activities proposed for the Diamond-Shamrock Chuitna Coal Project was technologically feasible and that the Reclamation Plan met the requirements of 11 AAC 90.[275] Thus, the findings in both the 1990 FEIS and DNR's 1987 Permitting Decision contradict the petitioners' allegation that reclamation, including of wetlands, is not feasible.

125. Nonetheless, the petitioners selectively cite portions of the 1990 FEIS to assert that reclamation of wetlands and riparian areas is not technologically feasible. The petitioners cite statements that, at first blush, appear to support their allegations, but omit other statements that discuss potential impacts and proposed reclamation that ultimately negate the contention that reclamation of coal mining activities is not technologically feasible. For example, petitioners quote the following from the 1990

[273] Petition at 20-25.
[274] 1990 FEIS at 5-20.
[275] 1987 Permitting Decision at 125.

FEIS regarding impacts to groundwater: "Impacts to groundwater regime as a result of mining operations would be substantial and would affect recharge and discharge relationships; quantity, quality, and direction of groundwater flows; and quantity and quality of surface water."[276] However, petitioners fail to mention two other key observations EPA reached: "These impacts are unavoidable; however, with proper planning, the impacts can be minimized."[277]

126. Petitioners also selectively cite the 1990 FEIS to support their contention that reclamation is not technologically feasible:

> Because of the long period required for soil formation, soils in the Diamond Chuitna mine area are highly susceptible to irreversible, disruptive impacts from surface mining. A major long-term disturbance would result from the removal of soils and overburden to reach the coal seams.[278]

127. Perhaps more importantly, petitioners omit what EPA concluded regarding feasibility of reclamation: "The initial construction impact to soils would be eventually mitigated by implementation of the reclamation plan and successful revegetation."[279]

128. In addition, EPA concluded in the 1990 FEIS that the reclamation plan was consistent with legal requirements:

> The project reclamation plan, as required by the State Surface Coal Mining Permit, includes a plan for the restoration of wetlands in the mining area. This plan provides for the enhancement of wetlands development throughout the reclaimed mine area, and the rehabilitation of certain sediment control ponds. The permit also requires construction of a minimum of four 1/2 acre coho salmon rearing ponds. These requirements are subject to review and possible revisions as necessary with the goal of achieving the desired restoration of wetland functions. The wetland restoration measures would reduce net wetland losses expected as a result of the project. Post reclamation wildlife habitat value could be less than premining conditions due to reductions in habitat diversity now contributed by the interspersed wetland/upland areas; however, this diversity is expected to re-establish over the long-term. An extensive sediment pond system is planned, which is expected to reduce

[276] 2010 Petition at 25 (quoting 1990 FEIS at 5-16).
[277] 1990 FEIS at 5-16.
[278] 1990 FEIS at 5-4.
[279] *Id.*

> the hydrologic and water quality impacts associated with the direct loss of wetlands during the period of mining, as reclamation proceeds.[280]

129. Significantly, in 1987, DNR, in its review of the Diamond Shamrock surface coal mining permit application for the Chuitna Coal project, found that the mining and reclamation plans met the requirements of 11 AAC 90.083, 11 AAC 90.085, 11 AAC 90.321, 11 AAC 90.323, and 11 AAC 90.335 - 90.353, and were protective of the hydrologic balance within the proposed mining area.[281]

130. In 1990, while remanding the permitting decision on other grounds, the Alaska Supreme Court upheld DNR's decision concerning reclamation.[282] The Supreme Court stated:

> In our view, DNR's acceptance of the plan meets the reasonable basis standard. The plan describes how wildlife habitat will be recreated by constructing peat-filled depressions which will be replanted with various plant species. In addition, three sediment ponds will be inoculated with plant and insect life forms, and seedlings will be planted to provide a vegetation canopy layer for the benefit of wildlife. In light of the complexity of the subject matter, we will defer to DNR's conclusion that these measures will be adequate to restore wildlife habitat.[283]

131. The petitioners fail to provide compelling evidence with their petition to suggest that there has been significant changes since DNR's 1987 Permitting Decision determining that the restoration and reclamation plans were sufficient (including to restore disturbed fish and wildlife habitats), EPA's 1990 findings that reclamation was feasible, and the proceedings in *Trustees for Alaska v. Gorsuch*, in which the Alaska Supreme Court upheld DNR's decision concerning the feasibility of reclamation. Wetlands of a similar type occur throughout the petition area. While the petitioners cite several passages from the 1990 EIS that discuss wetlands in the area and their functions, this information does not contradict DNR's earlier findings with respect to reclamation and restoration of wetlands and fish and wildlife habitat. Moreover, even though EPA found that there would be significant wetland impacts during operations in the Chuitna Coal project area, EPA made no finding that reclamation was not technologically feasible.

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[280] 1990 FEIS, App. F, at 2-3.
[281] 1987 Permitting Decision at 125, 283, and 383.
[282] *Gorsuch*, 835 P.2d 1239.
[283] *Id.* at 1249.

132. Not only have petitioners' argument been addressed in previous decisions, but the petitioners continue to rely on information that they submitted with their 2007 petition and which Commissioner Irwin found either did not provide competent evidence to support their allegations, or which, when inspected more closely, contradicted petitioners' allegations.[284] The petitioners did not seek further review of these final findings, and dismissed with prejudice their lawsuit on Commissioner Irwin's July 16, 2007 decision and corresponding February 14, 2008 decision on reconsideration.[285]

133. Additionally, the petitioners continue to rely on a 1998 report by Cooper, *et al.*, *Hydrologic Restoration of a Fen in Rocky Mountain National Park, Colorado*, USA[286] -- regarding 1990 wetland restoration efforts for fen wetlands systems in the Rocky Mountains, which does not support their allegations. The efforts documented in that paper were devoted to restoring fen systems for lands disturbed by agricultural activities that took place roughly one hundred years ago and relating to activities not likely subject to the regulations and practices used in contemporary agricultural activities, much less contemporary surface coal mining activities.[287] These lands are also located in a much more arid environment than the petition lands in the Chuitna watershed. Additionally, at least one conclusion in the report appears to contradict the petitioners' claim that fen systems cannot be restored:

> The ditch was blocked in an attempt to restore the hydrologic regime in the central and southern portions of the fen. Water-level data from three years prior to the restoration and four years after restoration show that blocking the ditch successfully restored surface sheet flow, high later summer water levels, and anaerobic soil conditions.[288]

134. The other reports that the petitioners continue to rely on that were included with the 2007 Petition deal with studies of restoration efforts for sphagnum moss in Quebec,[289] a wetlands restoration project in Hungary in a primarily

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[284] July 16, 2007 Decision on 2007 Petition at 8-9.
[285] For this reason, these arguments are likely barred by res judicata and collateral estoppel.
[286] 18 Wetlands 3 (1998), and Exhibit 6 to the current petition, and Exhibit 4 to the 2007 petition.
[287] Petition, Exhibit 6 at 336-37.
[288] 2010 Petition, Exhibit 6 at 335.
[289] 2010 Petition, Exhibit 15, Shantz, *et al.*, *Hydrological changes following restoration of the Bois-des-Bel Peatland, Quebec, 1991-2002*, 331 Journal of Hydrology 543 (2006).

agricultural and urban development area,[290] as well as a report of modeling approaches for the "prediction of effective water and lands use management aimed at mire conservation and restoration in primarily Western Siberia.[291] These studies discuss the difficulties of restoring wetlands but do not provide relevant data and information to support petitioners' argument in Allegation I that restoring wetlands, particularly fens, is not technologically feasible.

135. Petitioners also continue to rely on another report they assert shows that fens and bogs cannot be restored, *Compensating for Wetland Losses Under the Clean Water Act,*[292] but the excerpts from the report do not discuss any restoration measures that might be applicable to further aid analysis of the validity of this assertion, including contemporary coal mining practices and performance standards. The primary purpose of the report is to provide guidance to the U.S. Army Corps of Engineers and EPA in making permitting decisions and to develop mitigation strategies that the agencies can use in their decisions under section 404 of the Clean Water Act.[293] While the report is cited in the petition to support the claim that any proposed fen/bog restoration is not technologically feasible, petitioners' claims are contradicted by other competent and scientifically sound information discussed in detail below, which demonstrates that, while it may be difficult, it is possible to restore fens.

136. In short, as Commissioner Irwin previously found, none of these reports deal with disturbances caused by surface coal mines or mining in general, nor do they assess the effectiveness of contemporary coal mining practices and performance standards applicable to both operational and reclamation phases of surface coal mining activities, thus rendering the reports not competent for purposes of review to determine lands unsuitable for surface coal mining operations. Moreover, these reports do not show that reclamation in accordance with ASCMCRA of lands in the petition area disturbed by construction and operation of surface coal mining operations would not be technologically feasible.

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[290] 2010 Petition, Exhibit 9, Middleton, *et al.*, *Fen Management and Research Perspectives: An Overview, in Wetlands: Functioning, Biodiversity Conservation, and Restoration* 191 (2006).
[291] 2010 Petition, Exhibit 5, Bleuten, *et al.*, *Hydrological Processes, Nutrient Flows and Patterns of Fens and Bogs*, Wetlands and Resource Management 190 (2006).
[292] 2010 Petition at 23-24, discussing Exhibit 10, a National Research Council report entitled *Compensating For Wetland Losses Under The Clean Water Act*, at 2 (2001).
[293] 33 U.S.C. § 1344.

137. In addition to the foregoing decisions that have found the hydrological balance and wetlands can be restored, there is evidence of contemporary techniques that can be used to restore wetlands after mining. For example, in its intervention on the petition, PacRim notes other contemporary coal mining practices that are considered to promote reclamation success, including:

- Modern mining operations are conducted and reclaimed in a manner addressing sequential changes in the hydrologic control infrastructure, which minimizes impacts during mining and shortens the period of hydrologic restoration;
- Modern mine operations also incorporate material handling plans, which often include segregation of materials according to specific properties and reclamation or hydrologic benefits (i.e., topsoil, alluvium, surface gravels, aquiclude or aquitard materials) and dictate how these materials will be placed into the reclamation areas; and
- Modern groundwater models, such as MODFLOW developed by the USGS, are able to predict mining impacts to groundwater and in-stream flows, allowing a mine operator to formulate plans to mitigate potential water table declines and associated stream flow losses during mining, as well as proving a means to mitigate impacts after mining while groundwater elevations naturally recover.[294]

138. In fact, many examples of where high value wetlands have been reclaimed after disturbance by mining do exist. Within the Chuitna watershed, Exhibit 2 to PacRim's January 19, 2011, letter on the petition, shows compelling evidence of wetlands reestablishing after disturbance by mining activities. PacRim also provided recent reports concerning revegetation of disturbed areas in Alaska, including Barclay's willow and Diamond-leaf willow,[295] as well as sedges in wetland areas.[296] DNR reviewed these reports, and found them to be competent and scientifically sound data and information documenting successful revegetation efforts that are viable techniques that should be considered for reclamation planning in the coal-mine permitting context.

139. Examples of the ability to reclaim areas in the Chuitna watershed -- while small scale -- also exist. At the headwaters of Stream 2003, a test pit was dug to a depth of approximately seventeen feet to the top of a coal seam.

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[294] PacRim's January 19, 2011 letter commenting on the 2010 Petition, at 13.
[295] Walter, *et al.* (2005).
[296] Nolan and Wright (2007).

The area was backfilled and graded with little additional work conducted to encourage vegetation or wetlands regrowth. During recent environmental baseline work, including wetlands and vegetation mapping, this area was delineated as undisturbed natural ground. The report on this site stated that "[t]he lake and surrounding area are characterized as a vegetated pond with high value wetlands which contribute to carbon export and food chain support to adjacent streams."[297]

140. Although small in scale, this site is important because it shows that a functional wetland was established without additional mitigation or maintenance that would be required as part of a reclamation plan under 11 AAC 90.083. This site, along with several other sites disturbed by exploration activities within the Chuitna watershed, were inspected as part of the department's field work on the petition.

141. With its 2010 Petition, the petitioners included three recent reports that they commissioned which they assert support their allegation that reclamation is not technologically feasible. These reports are the "Chuitna Coal Mine baseline monitoring and restoration plan review" by Mark Wipfli (2009 Wipfli Report),[298] "Report on Chuitna Coal Project of PacRim Coal" (2009 Palmer Report),[299] and a "Report on Chuitna Coal Project Aquatic Studies and Fish and Wildlife Protection Plan" by Lance Trasky (2009 Trasky Report).[300] These reports include analyses of the potential impacts from surface coal mining based on a review of draft project and baseline documents that PacRim Coal is developing for its proposed Chuitna Coal Project. As the permitting process for the proposed Chuitna Coal Project has progressed, these draft project and baseline documents have changed considerably in response to comments and concerns raised by state and federal agencies. Consequently, the three reports commissioned by the petitioners have limited applicability in relation to the evolving proposed project.

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[297] HDR Alaska (2008).
[298] Exhibit 19 to the petition. Exhibit 20 is an executive summary of the conclusions presented in Exhibit 19.
[299] Exhibit 12 to the petition. Exhibit 13 is a summary of the conclusions presented in Exhibit 12.
[300] Exhibit 17 to the petition. Exhibit 18 is a summary of the conclusions presented in Exhibit 17.

142. In any event, petitioners' reports discuss the importance of the existing food web and hydrologic linkages in understanding the premining ecosystem and they assert that the data is not adequate to support a permitting decision, *e.g.*, "stream restoration presented in the Fish and Wildlife Protection Plan is conceptual and few specifics are provided."[301] The ADF&G agreed with the author that there was not enough information in these reports to address their concerns about reclamation,[302] but goes on to state ADF&G could not "conduct a thorough analysis until finalized plans are submitted."[303] The 2009 Wipfli Report states that the reports reviewed contain important biological information but are missing important baseline studies and potential impacts to the Chuitna watershed. From these reports, the petitioners argue that the understanding of streams and riparian areas has changed since the original Diamond Shamrock surface coal mining permit application was reviewed and use this as their basis for requesting designation of the petition area as lands unsuitable for mining.

143. The 2009 Palmer Report[304] is a review of draft baseline documents for the proposed Chuitna Coal Mine. The report focuses on the potential impacts the proposed Chuitna Coal Mine would have on streams and the environment both in the project area and downstream, and raises concerns with the baseline studies associated with the Chuitna Coal Project.[305] The petitioners cite the 2009 Palmer Report to support their allegation that the reclamation of streams is not technologically feasible.[306] However, in light of stream restoration projects associated with mining projects that are discussed in this decision, the 2009 Palmer Report fails to demonstrate that reclamation, or stream restoration, is not technologically feasible.[307] Examples discussed in this decision dealing with stream restoration after both large and small scale mining, including surface coal mining, show where streams

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301 2009 Trasky Report at 53.
302 Informal Comments on Three Reports Associated with the Proposed PacRim Chuitna Coal Project, ADF&G (December 2010).
303 *Id.* at 2.
304 Exhibit 12 and 13 to the petition.
305 These concerns have also been expressed by state and federal agencies reviewing the project, and staff with the agencies has asked PacRim for additional information and baseline studies, which are currently ongoing.
306 Petition at 28.
307 *See* Section F, below, relating to Allegation I.

have been successfully reclaimed, along with the ecological functions of the restored portions of those streams.

144. The 2009 Trasky Report, which is another report cited by petitioners, stresses the importance of nutrients that support fish populations, *e.g.*, "Nutrients from salmon eggs and carcasses play a major role in the productivity of both freshwater and riparian ecosystems and in perpetuating future salmon runs." However, the report fails to take into account proposed or mandated mitigation that would require the addition of nutrients such as pollock bone meal, transported salmon carcasses, and salmon carcass analogs. Selected examples of nutrient addition to salmon bearing waters include those from Revillagigedo Island, Southeast Alaska[308] Grilse Creek[309], and Cluxewe River in British Columbia[310], and these examples confirmed an increase in salmonids size and weight, as well as an increase in abundance of other food chain organisms. These examples support the proposition that nutrient addition can be used to mitigate the loss of any marine derived nutrient caused by mining operations and can be continued as mitigation throughout the reclamation period until natural sources can be re-established.

145. The ADF&G also reviewed the petition, including the 2009 reports prepared by Wipfli, Palmer, and Trasky. ADF&G concluded that "information submitted with, or in response to the petition, is insufficient at this time to determine whether reclamation of anadromous water bodies or riparian areas anywhere within the entire Chuitna River watershed is not technologically feasible."[311] The letter goes on to state that many of the concerns raised by the petitioners with regard to reclaiming anadromous water bodies and their associated riparian areas need to be addressed on a project-specific basis, when performance standards and other requirements are considered.[312] This is a sound conclusion.

146. Where the petitioners' commissioned reports do discuss reclamation, the reports either do not apply the appropriate reclamation standards based on the

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[308] Restoring Productivity of Salmon-Based Food Webs: Contrasting Effects of Salmon Carcass and Salmon Carcass Analog Additions on Stream-Resident Salmonids, Wipfli and others (2004).
[309] Salmon River Nutrient Enrichment for Fish Habitat Restoration (2006).
[310] Nutrient Enrichment of Vancouver Island's Cluxewe River (2007).
[311] Alaska Department of Fish and Game Letter dated May 26, 2011, at 2.
[312] *Id.*

postmining land use authorities, or the conclusions reached in these reports are speculative and not supported by competent and scientifically sound data. It is also important to note that contemporary mining practices have also changed with the advance of new technology and increased understanding of reclamation processes.[313] Contemporary mining practices require continuous monitoring and mitigation of reclaimed areas. The petitioners and the authors of the commissioned reports base their arguments on the erroneous assumption that no adverse impacts at all are allowed to fish and wildlife habitat, wetlands, and site hydrology as a result of surface coal mining operations.

147. The petitioners also cite a 2010 report (Mountaintop Mining Consequences, Palmer, *et al.*) documenting the impacts of valley fills[314] on headwater streams in the Appalachian region. Mine operators create valley fills when they dispose of excess spoil/overburden material on valley floors. This material consists of spoil and overburden that is not used in reclaiming the postmining topography after mining has been completed. This activity is typically associated with "mountain top removal"[315] operations in the Appalachian region. In Alaska, there is only one permitted valley fill, located at the Two Bull Ridge Mine near Healy, Alaska. The petitioners cite the valley fill report[316] to raise concerns that it would be impossible to reclaim premining vegetation, especially woody vegetation.

148. However, the potential circumstance petitioners cite has not been an issue in Alaska, even in areas where the reclamation effort did not involve a valley fill. For example, based on documentation in both an evaluation report and a recent final

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[313] Examples of contemporary mining practices include mining and reclamation plans that consider the roles landforms have on the function of reclaimed areas, the use of GPS controlled mining equipment, and extensive monitoring and mitigation plans that allow the mining and reclamation operation to adapt to real world conditions.

[314] "Valley fill" is defined as a "fill structure consisting of any material other than organic material that is placed in a valley where side slopes of the existing valley measured at the steepest point are greater than 20 degrees or the average slope of the profile of the valley from the toe of the fill to the top of the fill is greater than 10 degrees." 11 AAC 90.911(120).

[315] "Mountaintop removal" is defined as "surface mining which removes an entire coal seam or seams running through the upper fraction of a mountain, ridge, or hill, by removing substantially all of the overburden off the bench and creating a level plateau or a gently rolling contour, with no highwalls remaining, and capable of supporting postmining land uses approved in accordance with 11 AAC 90.141." 11 AAC 90.911(64).

[316] Petition at 22.

bond release for the Gold Run Pass permit, revegetation of wood species was well above the standard required by 11 AAC 90.457.[317]

149. At present, there are no planned or anticipated valley fills in the petition area. Notwithstanding, there is documentation noting successful reclamation of woody vegetation at the Lone Creek Bulk Sample sites in the Chuitna watershed.[318]

150. The petitioners assert that the valley fill report provides evidence that surface coal mining causes permanent damage to streambeds and riparian areas and that there are no examples of large scale reclamation associated with mining.[319] However, the valley fill report is narrowly focused on impacts of mountaintop removal and the disposal of valley fill in West Virginia. This information is countered by the information discussed elsewhere in this document, including competent information relevant to the Alaska environment and stream reclamation efforts in Alaska. Moreover, it is noteworthy that the Palmer, *et al.*, valley fill report does not discuss or consider successful stream restoration efforts at surface coal mining operations in other parts of the United States, some of which are documented in this decision.

151. During review of the petition, DNR found reports that recommended management practices to successfully restore fen/bogs. A 2003 study by the University of Minnesota on fen restoration, *Fen Restoration Final Project Report*,[320] recommended a number of measures to promote successful fen restoration, including direct haul of soil material to its final location, timing targets for soil removal and placement, methods for transplanting desired vegetation and controlling water levels. Another paper, *Covering Bare Ground Suppresses Unwanted Willows and Aids a Fen Meadow Restoration in Switzerland*,[321] provides recommendations for controlling unwanted vegetation within a restored fen to limit competition and enhance the regrowth of desired vegetative species associated with fens. A study on the restoration of fens, *Restoration of Degraded Boreal Peatlands*,[322] cited the 1998 study by Cooper,

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317 Revegetation Evaluation of Gold Run Pass July 2006-August 2008 Report for Bond Release (Dot Helm, November 2008); Gold Run Pass Phase III Bond Release (March 3, 2011).
318 Inspection Report Diamond Chuitna Mine Phase 0 (October 1, 2011). This site is also discussed in Exhibit 2 to PacRim's January 19, 2011 comment letter on the petition, at 9 (blue and red test pits).
319 Petition at 21.
320 Johnson, K. W. and Valppu, S. H. (2003).
321 Matthias Suter, Christine Prohaska and Dieter Ramseier (2006)
322 Rochefort, Line and Lode, Elve, Ecological Studies, Vol. 188 (2006)

et al., *Hydrologic Restoration of a Fen in Rocky Mountain National Park, Colorado*, USA,[323] as an example of a successful fen restoration project. The Cooper study is the same study cited by petitioners at pages 22-23 of the petition, and was also submitted with the 2007 petition. While the Cooper study addressed the difficulties the project encountered during and after competition of the project, it described mitigation measures that can be taken to minimize these difficulties and the study describes success at restoring fens.[324] The management practices suggested by these reports is already required by 11 AAC 90.313 (Topsoil Storage) and is consistent with contemporary mining practices to direct haul soils to maintain their ecologic viability. Reclamation of wetlands, including type and location, is driven by the approved postmining land use. For any new projects within the Chuitna watershed, any disturbance to or loss of wetlands would have to be approved by DNR under AS 27.21 and by the Army Corps of Engineers under the Clean Water Act section 404 provisions. Ultimately, the decision to restore fens as part of reclamation is significantly tied to the landowner's proposed postmining land use and consultation with DNR regarding that proposed use.

152. In accordance with AS 27.21.260(c)(1), the evidence in the administrative record-- particularly in light of the contrary evidence discussed in this decision -- is insufficient to require my determination that, for the petition area's hydrologic balance, reclamation in accordance with ASCMCRA is not technologically feasible. Moreover, the petitioners' evidence is insufficient to support the conclusion that surface coal mining operations would irreparably harm the area's hydrologic balance. Finally, many of the arguments and concerns raised by petitioners will also be addressed again at the permitting stage, based on project specific proposals.

C. Petitioners' allegation that reclamation would not restore groundwater recharge capacity in the petition area.

153. Petitioners claim that any surface mining within the Chuitna watershed would not restore the recharge capacity, as required by the performance standard in 11 AAC 90.343 (Protection of Groundwater Recharge Capacity).[325] The petitioners assert that this allegation is reviewed under the mandatory designation standard set

[323] 18 Wetlands 3 (1998).
[324] 2010 Petition, Exhibit 6 at 344.
[325] Petition at 24-25.

forth in AS 27.21.260(c)(1). This assertion is mistaken. Allegations regarding aquifer recharge are subject to the discretionary designation standard. Under AS 27.21.260(c)(2)(C), the Commissioner "*may* designate an area as unsuitable…if the commissioner determines that the operations in the area will affect aquifer recharge areas…."[326] In any event, whether the petitioners' allegation that surface coal mining operations would not restore recharge capacity is reviewed under the nondiscretionary or discretionary designation standards, the evidence is insufficient to support their allegation.

154. In making this allegation, the petitioners quote selective portions of the 1990 FEIS.[327] A full examination of the 1990 FEIS, however, contradicts petitioners' allegation:

> Reclamation of the mine area would at least partly reverse the ground-water impacts from mining. After removal of the surface-water diversion systems, surface water together with incident precipitation would recharge the underlying spoil materials and with time result in the reestablishment of a ground-water regime similar but not identical to the premining condition.[328]

155. As stated earlier, one of ASCMCA's purposes is to *minimize* adverse impacts to the hydrologic balance, including the recharge capacity within the mine area, and this is reflected in 11 AAC 90.343. As expressed in the 1990 FEIS, the EPA concluded that the proposed reclamation was essential to minimizing adverse impacts and would facilitate recharge of the "groundwater regime similar but not identical to the premining condition."[329] This finding is again supported by DNR's 1987 Permitting Decision to issue the permit for the Diamond Shamrock Chuitna Coal Mine.[330] As required by AS 27.21.180(c)(3), the permitting decision found that there would be no material damage to the project or surrounding areas.[331]

156. The petitioners assert that because "groundwater recharge capacity cannot be achieved within a reasonable timeframe,"[332] the performance standard at 11 AAC 90.343 could not be met. Specification of a reasonable time frame is not set forth in the regulations. Moreover, the absence of a given time frame does not alone

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326 Emphasis added.
327 Petition at 25.
328 1990 FEIS at 5-20.
329 *Id.*
330 DNR's 1987 Permitting Decision, at 386.
331 *Id.* at 39.
332 Petition at 25.

warrant an unsuitability determination, when there are a myriad of performance standards and other countervailing competent and scientifically sound data and information identified in this decision that support the conclusion that reclamation is technologically feasible.[333]

157. Petitioners also question the ability to preserve water quality during coal mining operations and cite a few studies relating to those concerns.[334] These concerns, however, can be addressed, and potential impacts prevented, by applying the performance standards and requiring adherence to Alaska Water Quality standards.

158. In sum, in accordance with AS 27.21.260(c)(1), for groundwater recharge, the evidence in the administrative record is insufficient to require my determination that reclamation is not technologically feasible. In accordance with AS 27.21.260(c)(2)(C), the evidence is insufficient to sway me to designate, in my discretion, any part of the petition area as unsuitable for surface coal mining operations due to groundwater recharge issues, because the evidence does not support a conclusion that operations anywhere in the petition area would "affect aquifer recharge areas or other renewable resource land in which the operations could result in a substantial loss or reduction to the long-range productivity of water supply," in this instance, groundwater recharge.

D. Petitioners' allegation that reclamation would not restore aquatic productivity to premining levels.

159. The petitioners allege that reclamation would not restore aquatic productivity for fish habitat to premining levels. This allegation cites the importance of the petition area as highly productive fish habitat, and that invertebrates within the

[333] For example, under 11 AAC 90.085(a) and (c)(3), an application for a proposed mining operation would have to describe anticipated impacts to the recharge capacity and include plans for restoring the "approximate recharge capacity in the area" after mining is complete in accordance with 11 AAC 90.343.11 AAC 90.085(c)(3). Under 11 AAC 90.083(a) and (b)(1) and 11 AAC 90.085(c)(3), DNR requires that a reclamation plan include "a detailed timetable for the completion of each major step in the reclamation plan," and that would include a timetable for restoration of the approximate recharge capacity.

[334] Petition at 25.

petition area are an important food source for fish.[335] This argument is based on an interpretation of 11 AAC 90.327(d)(3).[336] 11 AAC 90.327(d)(3) provides:

> (d)When permanent diversions are constructed or stream channels restored after temporary diversions, the operator shall …
>
> …
>
> (3) establish or restore the stream to a longitudinal profile and cross section, including aquatic habitats that approximate refining stream channel characteristics and *which may, using the best technology currently available,* be expected to restore aquatic productivity to premining levels.[337]

This regulation means that any coal mining operation that plans to construct permanent diversions (*i.e.*, rebuild stream channels) is directed to use the "best technology available" as part of the reclamation and mitigation plan that may be expected to restore aquatic productivity to premining level. As with other requirements of ASCMCRA, there is the understanding that mining will have adverse impacts to the environment,[338] including aquatic productivity, and that any adverse impact must be minimized or mitigated. Accordingly, there is no requirement, as petitioners argue, that a petition must be granted if there is a showing that mining activity will have an adverse impact on the environment.

160. Petitioners' interpretation of 11 AAC 90.327(d)(3) also ignores the emphasized portion of this performance standard -- i.e., petitioners do not consider the application of "best available technology" and how this technology can be used to restore habitat.

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[335] The petitioners assert that this allegation is reviewed under the mandatory designation standard set forth in AS 27.21.260(c)(1). Petitioners are again mistaken. Allegations regarding restoration of aquatic productivity -- or, in other words, to reclaim losses or reduction to productivity that may be sustained as a consequence of surface coal mining -- are subject to the discretionary designation standard. Under AS 27.21.260(c)(2)(C), the commissioner "may designate an area as unsuitable…if the commissioner determines that the operations in the area will affect aquifer recharge areas in which the operations could result in a substantial loss or reduction of long-range productivity of water supply or food or fiber products." But even if this allegation is reviewed under the nondiscretionary designation standard, the evidence is insufficient to support their allegation.

[336] Petition at 25-29.

[337] Emphasis added.

[338] *See* discussion at Allegation I, subsection B, above.

161. The petitioners' argument is misplaced for an additional reason: other applicable performance standards will operate to protect water quality and hydrology, and seek to minimize adverse impacts on fish and wildlife.[339]

162. Petitioners next cite examples of impacts to fish productivity that were considered in the 1990 FEIS[340] as evidence demonstrating that aquatic productivity could not be restored. The cited examples are comments set forth in Chapter 5 of the 1990 FEIS, dealing with "Environmental Consequences." A closer reading of Chapter 5 and the cited comments regarding potential impacts to aquatic productivity show the comments themselves were speculation, and not conclusions.[341]

163. Petitioners also fail to account for the mitigation required by DNR's 1987 Permitting Decision,[342] or how mitigation might be required by other state and federal permits,[343] and how that mitigation was addressed in the 1990 FEIS:

> To mitigate for the unavoidable loss of approximately two miles of anadromous fish habitat in tributaries 200305, 200304, and 20030502 (ADF&G Nos. 247-20-10010-2030 - 3018 and 3012) the applicant shall construct replacement fish habitat. Replacement fish habitat shall consist of the construction and maintenance of at least four one-half acre coho salmon rearing ponds to be located adjacent to coho salmon spawning habitat in tributary 2003.
>
> The requirement also insists upon a monitoring plan to address the effectiveness of the mitigation:
>
> Should the monitoring show that the ponds are not providing satisfactory coho salmon rearing habitat, as determined by ADNR in consultation with ADF&G, alternative mitigation may be prescribed as necessary to compensate for the lost fish habitat.[344]

164. Moreover, information regarding anadromous fish streams has advanced since the 1990 FEIS, as has the understanding of the technology used to restore fish productivity in disturbed areas. In Alaska, several mitigation measures have been used successfully to restore productivity to impacted streams. Examples include the construction of off-channel rearing pond at the Granite Creek Material Site,[345] which is

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339 11 AAC 90.323 (water quality); 11 AAC 90.343, 11 AAC 90.085,11 AAC 90.321 (hydrology); and 11 AAC 90.423 (fish and wildlife).
340 Petition at 27.
341 1990 FEIS at 5-139.
342 1987 Permitting Decision at 11.
343 1990 FEIS at 5-1.
344 *Id.* at 6-9 (quoting DNR's 1987 Permitting Decision at 12).
345 PacRim Coal Intervention Letter Exhibit 2.

used for coho and Dolly Varden rearing, and the restoration of Resurrection Creek for pink, coho, Chinook, chum and sockeye salmon.[346] Another mitigation measure used successfully was the Alaska Resource & Economic Development Inc.[347] (ARED) system on the Moose Creek Restoration project.[348] The ARED system is designed to use existing wild salmon in an impacted stream to enhance fish population. This enhancement is accomplished by improving the survival rate of the salmon in their early life stages. In the Moose Creek project this technique has been used to help reestablish the Chinook and coho salmon populations. Other mitigation that has been used successfully in restoration projects, and discussed elsewhere in this decision, includes the addition of nutrients such as pollock bone meal, transported salmon carcasses, and salmon carcass analogs.

165. In addition, for reasons discussed above, the application of 11 AAC 90.327(d)(3) needs to be on a project-specific basis, using site specific information, including a detailed mining and reclamation plan, not area-wide information using the petition process.

166. In accordance with AS 27.21.260(c)(1), the evidence in the administrative record is insufficient to require my determination that, for aquatic productivity (specifically fish habitat), reclamation in accordance with statutory and regulatory authorities is not technologically feasible. In accordance with AS 27.21.260(c)(2)(C), the evidence is insufficient to cause me to designate, in my discretion, any part of the petition area as unsuitable for surface coal mining operations because of aquatic productivity, because the evidence does not support a conclusion that operations anywhere in the petition area would "affect aquifer recharge areas or other renewable resource land in which the operations could result in a substantial loss or reduction to the long-range productivity of water supply or food or fiber products." Stated another way, there is insufficient evidence to support the allegation that there will be a substantial loss or reduction to the long-range productivity of aquatic productivity -- including fish habitat, fish, or other food supply -- based on the petition, even assuming that fish habitat is the confirmed postmining land use for the delineated

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[346] Wildfish Habitat Initiative, http://wildfish.montana.edu/Cases/browse_details.asp?ProjectID=61 .
[347] http://www.ared.net/index.htm .
[348] Wildfish Habitat Initiative, http://wildfish.montana.edu/Cases/browse_details.asp?ProjectID=73 .

petition area. And, as a practical matter, it must be recognized that concerns regarding a proposed project's ability to achieve the applicable performance standards with regard to water quality, minimization of damage to fish and wildlife, and design of precise reclamation measures for proposed postmining land uses is dealt with on a site-specific basis during the permitting phase. Such concerns cannot be appropriately addressed in the context of a lands unsuitable petition if petitioners fail to assume -- as they do here -- that contemporary coal mining practices will be followed.

E. Petitioners' allegation that surface coal mining in the petition area cannot be designed and operated to minimize changes in water quality and quantity and hydrology enough to ensure no adverse effects to fish and wildlife habitat.

167. Petitioners appear to assert that the Act mandates that a petition be granted if there are adverse impacts to fish and wildlife.[349] The proposition that no adverse impacts from surface coal mining operations is allowed is not consistent with the legislative expectation under either SMCRA or ASCMCRA. As noted in section B, above, adverse impacts during construction and operation are anticipated. The objective, though, is to minimize and avoid impacts, and to reclaim areas which are impacted.[350]

168. In making this allegation, the petitioners misconstrue 11 AAC 90.321(b) to be a performance standard requiring "avoidance of adverse effects to *pre-existing* land uses."[351] This is not a correct statement of the regulation, because, as discussed in detail above, the focus is on "postmining land use," whatever that land use may be determined to be in accordance with applicable authorities and consultation with the landowner.

169. The petitioners and a number of commenters, including the Center for Science and Public Participation (CSP2),[352] raised concerns that water discharges from coal mining operations -- specifically discharges from the

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[349] Petition at 29-33.

[350] For example, regarding fish and wildlife, a coal mining operation "shall, to the extent possible using the best technology currently available, minimize disturbances and adverse impacts on fish, wildlife, and related environmental values, and achieve enhancement of such resources where practical." 11 AAC 90.423(a).

[351] Petition at 33 (emphasis added).

[352] CSP2's January 18, 2011 letter in support of the petition.

proposed Chuitna Coal Project -- will not meet Alaska Water Quality Standards, even after reclamation. These comments parallel concerns that have been expressed by state and federal agencies in their initial evaluation of preliminary plans submitted by PacRim for the Chuitna Coal project, but these comments were made based on preliminary information relating to a specific project and are too speculative for determining reclamation is not technologically feasible. Moreover, if PacRim's final proposal cannot comply with performance standards (including compliance with Alaska water quality standards) it will not be permitted. Thus, petitioners -- once again -- fail to assume (as they must) that performance standards will be followed. And, the type of issue that CSP2 raised and addressed in the previous paragraph must be addressed as part of a project-specific review.[353]

170. Petitioners also cite EPA's statements in the 1990 FEIS that streamflow reduction from the Chuitna Coal Project could be as much as 17% in the Chuitna River near Lone Creek during low flow periods, and that there might be a reduction of streamflow of 25% for Lone Creek during low flow periods.[354] However, neither citation presents EPA's complete statement regarding its analyses and conclusions on these potential reductions. For example, regarding the Chuitna River, EPA stated:

> As indicated in Table 5-7, minimum flow in the Chuitna River immediately below the mouth of Lone Creek could be reduced by up to 17% during low flow periods in later years of mining. This reduction would represent an extreme worst case situation and would be unlikely during mining because of the addition of return water to the Chuitna drainage from the various mine area drainage systems.[355]

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[353] The Alaska Department of Environmental Conservation echoed this view in reviewing CSP2's comments in support of the petition:

> ….The agencies have not yet been provided all the data and plan information to determine the potential and degree of risk and suitable mitigation methods to address the multitude of issues concerning water quality and subsequent effects on habitat and fisheries. Once these issues have been identified on the basis of complete data and development plans, they will need to be reviewed and deliberated amongst the state and federal agencies for compatibility across the several permits that PacRim will need to obtain. Until such time as the agencies have been provided with complete permit applications with all the supporting data and documentation, it is pre-mature to determine if [CSP2's] concerns directly apply to the Chuitna Coal Project.

DEC's May 26, 2011 analysis and response to CSP2's January 18, 2011 comment letter.

[354] 2010 Petition at 31.

[355] 1990 FEIS at 5-30.

Regarding Lone Creek, EPA stated:

> As indicated in Table 5-7, minimum flows could be reduced during low flow periods (late summer and later winter) by up to 25 percent within the portion of Lone Creek east of the mine. As flows increase downstream, impact would be proportionally less. The above calculations of flow reduction assume no transfer of pit drainage to Lone Creek. During the first 10 years of mining, Diamond Alaska plans to release much of its pit drainage into Lone Creek; therefore net flow would actually increase at least temporarily. The up to 25 percent reduction would still occur in the event of pump failure or in the event that pit water freezes and cannot be pumped.[356]

171. As stated throughout this decision, a petitioner must assume that any mine that might be permitted in the petition area will follow contemporary mining practices and that the applicable regulatory standards established by ASCMCRA, including compliance with Alaska Water Quality Standards, will be imposed and adhered to. Neither DEC, which regulates wastewater, nor DNR, which issues coal operating permits, will issue authorizations that would allow discharges to exceed Alaska's applicable statutory and regulatory requirements for water quality and quantity. The same is true for ADF&G, which will only issue Title 16 Habitat Permits if a mining proposal can show that statutory and regulatory requirements will be met.

172. In accordance with AS 27.21.260(c)(1), the evidence in the record is insufficient to require my determination that -- for water quality, quantity, and hydrology that may provide fish and wildlife habitat within the petition area -- reclamation in accordance with ASCMCRA is not technologically feasible. Moreover, the evidence is insufficient to support the petitioners' allegation that surface coal mining operations would irrevocably alter the hydrology and aquatic productivity of the petition area, or the Chuitna watershed.

F. Examples of Successful Stream and Wetlands Reclamation Projects

173. In addition to the information submitted by the petitioners, I am required to review relevant, competent and scientifically sound data and information in making a determination on a petition alleging that reclamation is not technologically feasible.[357] I have reviewed stream and wetland restoration and reclamation projects

[356] *Id.*
[357] AS 27.21.260(a)(2).

in Alaska and other parts of North America. Many of the examples reviewed include areas disturbed by mining, including surface coal mining.

174. The Valdez Creek Mine, located south of the Alaska Range, is an example of mining-related successful stream reclamation. The mine operated as one of the largest gold producers in Alaska from 1984 to 1996 by the Valdez Creek Mining Company -- a consortium of Camindex Mines Ltd., Cambior Inc., and Barrick Resources Ltd.[358] The stream hosts populations of grayling and trout,[359] and during some period of the operations, fish were transported around the mine site during the spawning period. The work was done under contract from Cambior to Potterville Specialty Services and North Alaska Fisheries Services for several days each week for a period of about a month and a half in the spring.[360] While there are no anadromous fish that are supported in the river, it is an important example of stream reclamation after substantial disturbance to the hydrologic balance by a relatively deep surface mining operation. The postmining stream on this site was constructed on reclaimed mine spoils that were replaced after mining in the same general configuration as the premining stratigraphy, including substantial thicknesses of glacialfluvial material overlying Tertiary fluvial deposits and deeply incised paleochannels.[361] This work resulted in the 1995 Governor's Award for Reclamation, presented to Cambior Alaska, Inc.[362] The selective handling of the spoil material is very similar to spoil handling plan for the Diamond Shamrock permit application.[363]

175. Nome Creek, located in the White Mountains in Interior Alaska, is another example of successful postmining stream reclamation. The creek was mined

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[358] Reger, R.D. and Bundtzen, 1990, Multiple glaciations and gold-placer formation, Valdez Creek valley, western Clearwater Mountains, Alaska: DGGS Prof. Paper 107, at 1-2; 30p.
[359] EPA, 1992, Site visit report: Valdez Creek mine Cambior Alaska Incorporated, at 3-8; 46p.; website, http://www.epa.gov/osw/nonhaz/industrial/special/mining/techdocs/placer/placer3.pdf .
[360] EPA, 1992, Site visit report: Valdez Creek mine Cambior Alaska Incorporated, at 3-37; 46p.; website, http://www.epa.gov/osw/nonhaz/industrial/special/mining/techdocs/placer/placer3.pdf .
[361] Reger, R.D. and Bundtzen, 1990, Multiple glaciations and gold-placer formation, Valdez Creek valley, western Clearwater Mountains, Alaska: DGGS Prof. Paper 107, at 6; 30p.
[362] DNR, 1997, Mining reclamation in Alaska: State of Alaska, Department of Natural Resources, Division of Mining and Water Management, November 1997, 37p.
[363] DNR 1987 Permitting Decision at 402; 404p.

from 1900[364] up to the 1980s[365] by sluicing, and a gold dredge operated on a large scale in the 1920s and 1930s; an area is still set aside for recreational gold mining.[366] Approximately seven to eight miles of the stream and riparian areas were destroyed as part of the historic mining operations. In the late 1980s, the Department of Interior's Bureau of Land Management (BLM) initiated a water resource monitoring and inventory on Nome Creek and reclamation efforts were started in earnest by 1991. As of 2006, six miles of stream, riparian areas, and 300 acres of floodplain restoration had been completed.[367] This stream historically had a resident Arctic grayling population. Monitoring has shown grayling present in lower and upper Nome Creek.[368] This restoration effort has been a national showcase for riparian reclamation projects,[369] and BLM hopes that techniques developed at Nome Creek will be useful in other placer mine reclamation efforts.[370]

176. Another pertinent example of stream reclamation related to coal mining is that of Moose Creek, in the Wishbone Hill area near Palmer and Sutton, Alaska. Prior to disturbance, the creek supported sockeye, coho, Chinook, pink, and chum salmon.[371] From 1916 through 1983, sporadic coal mining occurred along Moose Creek. Early underground mining, followed by adjoining strip mining operations, severely altered more than seven miles of Moose Creek.[372] In 1923, a railroad spur was constructed up Moose Creek, from the railroad junction at the creek's mouth to

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364 McGown, Sarah, 2011, History of gold mining on Nome Creek: BLM Alaska website http://www.blm.gov/ak/st/en/prog/nlcs/white_mtns/summer_recreation/nome_creek_mining.html (updated 1-15-11).

365 Fleming, D,F., and McSweeny, Ingrid, 2001, Stock assessment of arctic grayling in Beaver and Nome Creeks: Alaska Department of Fish and Game, Division of Sport Fish, Fisher Data Serier 01-28, at 1; 38 p.

366 BLM, 2001, Gold Panning at Nome Creek: BLM Alaska website, http://www.blm.gov/ak/st/en/prog/nlcs/white_mtns/summer_recreation/gold_panning.html

367 Kostohrys, Jon, 2007, Water resources and riparian reclamation of Nome Creek, White Mountains National Recreation Area, Alaska: Bureau of Land Management, Alaska Open File Report 113, 47p.

368 Flemming and McSweeny (2001).

369 Kostohrys, Jon and Koss, Lee, 2006, Nome Creek restoration of place[r] mined gravels [abs]: Alaska Section of the American Water Resources Association 2006 Annual Meeting, Proceedings Abstracts.

370 Kostohrys, 2007.

371 Matanuska-Susitna Borough, 2011, Moose Creek Soapstone Community Council comprehensive draft plan May 16, 2011: Matanuska-Susitna Borough, at 13; 80p.

372 Moose Creek Fish Passage Restoration Project, 2007, Wildfish Habitat Initiative (USFWS and Montana Watershed Council): website updated 2/16/2007, http://wildfish.montana.edu/Cases/browse_details.asp?ProjectID=73 .

the foothills.[373] When the rail line was upgraded to a standard-gauge rail, Moose Creek was re-routed, straightened and channelized, separating it from its floodplain, creating artificial waterfalls, and impacting more than seven miles of creek.[374] Such stream alterations resulted in degraded fish rearing and spawning habitat on the creek, as well as degraded adjacent wildlife riparian habitat for species such as bears and eagles. The stream alterations resulted in three distinct waterfalls, which prevented salmon from accessing over five miles of stream and wetland complex.

The goal of the Moose Creek Fish Passage Restoration Project was to restore wild salmon spawning habitat and runs to the upper Moose Creek watershed and improve the quality and quantity of aquatic and riparian habitat available to fish and wildlife species.[375] The work was a cooperative effort by the Chickaloon Village Environmental Protection Program, the U.S. Fish and Wildlife Service, NOAA, the University of Alaska at Anchorage's Environment and Natural Resources Institute, the EPA, and others, receiving a Five-Star Restoration Grant in 2004.[376]

Work was done in two phases -- Phase I in 2005, and Phase II in 2006. In late July 2005, after Phase I restoration construction was complete, over 200 adult Chinook salmon were observed above the previously impassable waterfall barrier. Chinook salmon were spawning in the newly created restoration channel. In late September and early October 2005, several adult coho salmon were seen migrating through the restoration project toward upstream spawning habitats. In early September, after Phase II restoration was complete, coho salmon were observed above the previously impassable barrier.[377] It is reported that "within days of project

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[373] Moose Creek Restoration Project, 2011, Chickaloon Village Traditional Council website: website, http://www.chickaloon.org/index.php?option=com_content&view=article&id=145&Itemid=160.

[374] U.S. Fish and Wildlife Service, 2005, Environmental assessment, Moose Creek fish passage project: Anchorage USFWS Office, Anchorage, AK, prepared for the Chickaloon Village Traditional Tribal Council.

[375] Roach, Chris, 2004, Summary – Moose Creek conceptual reclamation plan [abs.]: Alaska Section of the American Water Resources Association 2004 Annual Meeting, Proceedings Abstracts; Moose Creek Fish Passage Restoration Project, 2007, Wildfish Habitat Initiative (USFWS and Montana Watershed Council): website updated 2/16/2007, http://wildfish.montana.edu/Cases/browse_details.asp?ProjectID=73 .

[376] EPA, 2010, Five-Star Restoration Program: EPA website updated 3-5-2010, http://www.epa.gov/owow/wetlands/restore/5star/ .

[377] Moose Creek Fish Passage Restoration Project, 2007, Wildfish Habitat Initiative (USFWS and Montana Watershed Council): website updated 2/16/2007, http://wildfish.montana.edu/Cases/browse_details.asp?ProjectID=73 .

completion, Chinook salmon were observed spawning within the new channel, and were also seen as far as four miles upstream of the old waterfall site."[378] Phase II was completed in July 2006, relocating portions of the stream to its original location and bypassing three partial-barriers to fish passage. The stream restoration work largely survived a major flood later in the late summer of 2006, and the stream allows continuous fish passage.[379]

177. Resurrection Creek, home to Alaska's first gold rush in 1896, is another relevant stream restoration project. Hydraulic and power shovel mining within the watershed reduced the quality and quantity of fish and wildlife habitat within the watershed. The most severe impacts from mining were located in the lower 6.2 miles of river. The lower reaches within this area were identified as critical spawning and rearing habitat for coho, chum, pink and Chinook salmon. Placer tailings piles up to 25 feet high confined and straightened the stream[380] and covered 54% of the floodplain.[381]

Investigations began in 2002 by the U.S. Forest Service Wind River Restoration Team from Carson, Washington, that assisted the Chugach National Forest by surveying and analyzing stream channel conditions and developing a stream channel restoration strategy, rehabilitation alternatives, and recommendations.[382] Restoration design and implementation templates for Resurrection Creek included channel geometry equations, stream flow patterns, and relic and disturbed analog reaches for reference reaches of stream. Restoration actions included mechanically manipulating mine tailings to recover floodplain width and elevations; reconstructing meander pattern, channel profile, pools and spawning habitat; developing multiple relief channels and off-channel ponds within the floodplain; extracting beetle killed spruce trees in high risk fire hazard areas to utilize as a source of in-stream and terrestrial

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[378] Cooperative Conservation, 2011, Moose Creek fish passage restoration project: website, http://www.cooperativeconservationamerica.org/viewproject.asp?pid=712 .
[379] Moose Creek Restoration Project, 2011, Chickaloon Village Traditional Council website: http://www.chickaloon.org/index.php?option=com_content&view=article&id=145&Itemid=160.
[380] Wild Fish Initiative, 2007, Resurrection Creek: (USFWS and Montana Watershed Council) website, http://wildfish.montana.edu/Cases/browse_details.asp?ProjectID=61.
[381] Bair, Brian, Blanchet, Dave, and Olegario, Anthony, 2003, Planning a resurrection: Resurrection Creek, Alaska: Streamline -- Watershed Management Bulletin a publication of FORREX, the Forest Research Extension Partnership, vol.7, no. 2, at 1; 4p.
[382] Bair, Brian, Powers, Paul, and Olegario, Anthony, 2002, Resurrection Creek stream channel and riparian restoration analysis, river kilometer 8.0-9.3: U.S. Forest Service Wind River Watershed Restoration Team, October 1, 2002, at 4; 61p.

woody material; augmenting soils in reclaimed riparian areas to provide soil/landform and drainage conditions which can support native plant communities; thinning existing overstocked riparian sapling spruce and cottonwood stands; allowing natural revegetation where seed source and site conditions were favorable; and using native plant species in revegetation projects when natural revegetation conditions were not favorable.[383]

The U.S. Forest Service produced a draft of the EIS in April 2004, completed the FEIS in November 2004, and in 2005 had finished channel, side channel, logjam, and floodplain reconstruction for most of the lower 0.7 miles of the project. These newly created channel segments were quickly utilized by spawning salmon almost immediately following construction.[384] With channel restoration nearly complete for about 75 percent of the length of the one-mile project reach, many of the morphologic objectives of the project have been accomplished or nearly accomplished in the reach restored in 2005. Spawning gravel at the pool tails was increased substantially from pre-project conditions. Although the majority of the fish were pink salmon, all five species of Pacific salmon have been observed in the restored reach (pink, coho, Chinook, chum and sockeye).[385] The U.S. Forest Service is now nearly complete with planning for Phase II of the project that would reclaim an additional two miles of the creek below the Phase I work.[386]

178. Outside of Alaska, there have been many examples of reclaiming fish-bearing streams, including salmon streams, after mining activity. Clear Creek near Shasta, California is an example where historic hydraulic and dredge mining, as well as recent gravel mining, significantly disturbed the flood plain and stream including the complete removal of all of the riparian and upland vegetation. Mining left a complex of large pits and ponds along the lower reaches that became isolated when

[383] Wild Fish Initiative, 2007, Resurrection Creek: (USFWS and Montana Watershed Council) website, http://wildfish.montana.edu/Cases/browse_details.asp?ProjectID=61 .
[384] U.S. Forest Service, 2006, Resurrection Creek stream channel and riparian restoration project: USFS Alaska Region Briefing Paper, April 2006, at 2, 4p.; U.S. Forest Service, 2004, DEIS, Resurrection Creek stream and riparian restoration project, Seward ranger district, Chugach National Forest: USDA Forest Service, April 2004, R10-MB-505, 201p.
[385] Wild Fish Initiative, 2007, Resurrection Creek: (USFWS and Montana Watershed Council) website, http://wildfish.montana.edu/Cases/browse_details.asp?ProjectID=61 .
[386] USFS DEIS Resurrection Creek Phase II Stream Riparian Restoration (8-04-10).

water levels dropped stranding adult and juvenile salmon and steelhead.[387] Gravel mining in the 1950s through the 1980s completely disrupted channel form and confinement, interrupting fish migration.[388] Historically, Clear Creek supported populations of Chinook salmon that were adversely affected by these activities. The U.S. Fish and Wildlife Service has monitored the occurrence of juvenile salmonids since 1998 when restoration began.[389] Recent restoration activities of the stream and riparian areas have led to a fivefold increase in Chinook spawning escapements over the disturbed configuration.[390] Restoration activities are ongoing.[391]

179. Near Butte Montana, stream restoration efforts of portions of Silver Bow Creek, as part of a Superfund cleanup of mining tailings that began in 1999, have returned trout to portions of reclaimed streams that have been barren of trout for generations.[392] By 2005, slimy sculpin and long-nosed suckers returned to the creek,[393] and by 2007, trout were found in Silver Bow Creek. In 2010, an 18.5 inch cutthroat trout was caught by a young sports fisherman and mink, which prey on fish, were observed along the creek.[394] This project included the removal of nearly a century's worth of mine tailings and the complete reconstruction of 10 miles of trout streams and their associated riparian areas. As part of the project's achievements for this restoration project, the Montana Department of Environmental Quality cites improved ground and surface water quality, and reconstructed stream channels that

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[387] Wild Fish Habitat Initiative, 2006, Clear Creek Photo Gallery: website updated 6-20-2006, http://wildfish.montana.edu/cases/gallery1.asp?ProjectID=74 .

[388] Tompkins MR, Kondolf GM (2003) Integrating geomorphic process approach in riparian and stream restoration: past experience and future opportunities. In: Faber PM (ed) California riparian systems: processes and floodplain management, ecology and restoration. Proceedings of the Riparian Habitat and Floodplains Conference (Sacramento, 2001), Sacramento, California, at 234; 230–238.

[389] Earley, J.T., Colby, D.J., and Brown, M.R., 2010, Juvenile salmonid monitoring in Clear Creek, California, from October 2008 through September 2009: USFWS, Red Bluff Fish and Wildlife Office, California (September 2010), at 1; 53p.

[390] WildFish Habitat Initiative, http://wildfish.montana.edu/Cases/browse_details.asp?ProjectID=74 .

[391] Destaso, J. and Brown, M.R., 2011, Clear Creek Restoration Program Annual Work Plan for Fiscal Year 2011: CVPIA program document, website: http://www.usbr.gov/mp/cvpia/docs_reports/awp/2011/3406(b)(12)%20Clear%20Creek_AWP_FY2011.pdf

[392] Montana Department of Environmental Quality, 2009, Silver Bow Creek update, winter 2009: Montana DEQ website, http://www.cfwep.org/cfinfo/agency_updates/SBC-030209.pdf.

[393] Tracy, Jim, 2005, *Greenway district wins environmental award, poisoned Silver Bow Creek showing signs of life: Anaconda Leader*, April 18, 2005.

[394] Montana Department of Environmental Quality, 2008, *Trout make splash in Silver Bow Creek for second straight year,* Montana DEQ press release (Oct. 7, 2008).

are functioning and providing increased habitat diversity and an increase in biological diversity especially in aquatic species susceptible to metals leaching from spoils.[395]

180. Several stream restoration projects associated with large coal mines have been completed in Illinois. Consol Energy's Burning Star 4 mine reclaimed eight miles of stream, including associated riparian areas, that had been impacted by dragline placed mine spoil. This project has been recognized by OSM for its outstanding reclamation efforts and has received a national award for its innovative reclamation practices.[396] The Pipestone Creek Restoration Project is another project in Illinois that restored 4.6 miles of Pipestone Creek on reclaimed mine spoils. This project noted that aquatic species returned to the restored portions on the creek in a short period after work was complete. The restored creek along with the conservation easement has been added to Pyramid State Park.[397]

181. While some of the above examples involved reclamation projects that commenced long after an area was subject to some form of mining and had been abandoned, the projects nonetheless reflect that reclamation is technologically feasible. Successful reclamation for surface coal mining operations, not only within the petition area but other areas of the state, will be even more likely for present-day reclamation where statutory and regulatory authorities require detailed planning, multi-agency State and federal regulatory review, and reclamation efforts to be actively pursued before, during, and after coal mining ceases.

182. Since the 1987 Permitting Decision on the Diamond Shamrock Chuitna Coal Project, regulatory authorities nationwide have recognized that reclamation of coal mine sites could be even better. Both state and federal regulatory authorities and the mining industry have combined resources to institute geomorphic reclamation techniques such as those pioneered by Horst Schor and documented in his book "Landforming: An Environmental Approach to Hillside Development, Mine Reclamation and Watershed Restoration" (Schor and Gray, 2007), as well as the works of Dave

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[395] Montana Department of Environmental Quality, 2009, Silver Bow Creek update, winter 2009: Montana DEQ website, http://www.cfwep.org/cfinfo/agency_updates/SBC-030209.pdf.
[396] 2011 OSM National Stream Design Workshop, Field Tour Descriptions.
[397] PacRim Coal Intervention Letter Exhibit 3.

Rosgen[398] on stream restoration. These techniques are currently being applied to large surface coal mining operations throughout the United States.

183. This use of advanced reclamation strategies recognizes the need for both pre-development baseline studies of the streams and riparian areas proposed to be disturbed, and a detailed life of project monitoring and reclamation plan that are designed to achieve reclamation in real world conditions. The EPA, in its recognition of river corridor and wetlands restoration, stresses the importance of planning and proper management: "When properly planned, executed and managed, restoration works; its success can be attributed to the hard work and dedication of practitioners, scientists and others…."[399] This progression to more advanced reclamation techniques in Alaska can be seen in the submittal by PacRim Coal of their "Draft Chuitna Coal Project Preliminary Design Report." This report outlines the proposed designs for streams to be reclaimed at the proposed Chuitna Coal Project.

184. Unless a specific finding is made, the existing performance standard found at 11 AAC 90.353 imposes a 100-foot, "no-mining" buffer on all perennial or intermittent streams, including streams located within the Chuitna watershed. The buffer may only be waived if the Commissioner specifically finds that any surface coal mining operation, including all support facilities, will have no adverse impacts on water quality and quantity and that any adverse effect on fish and wildlife will be minimized. To make this finding, the Commissioner must have detailed baseline data and a complete operation and reclamation plan for any proposed project within the Chuitna watershed.

185. As discussed several times above, it must be recognized that concerns regarding a proposed project's ability to achieve the applicable performance standards with regard to water quality, minimization of damage to fish and wildlife, and design precise reclamation measures for proposed postmining land uses is dealt with on a site-specific basis during the permitting phase. Such concerns cannot be appropriately addressed in the context of a lands unsuitable petition if petitioners fail

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[398] Rosgen, Dave, & Silvey, Hilton Lee; Watershed Assessment of River Stability and Sediment Supply, at 589, 2006 and Rosgen, Dave, & Silvey, Hilton Lee; Applied River Morphology, Second Edition© 1996 184 pages.

[399] http://www.epa.gov/owow/wetlands/restore/benefits.html

to assume -- as they do here – that contemporary coal mining practices will be followed.

186. While Congress intended the petition process "to be applied on an area basis, rather than a site-by-site determination, which presents issues more appropriately addressed in the permit application process,"[400] the petition process nonetheless contemplates that sufficient evidence to establish their allegations throughout the petition area. In this regard, there is insufficient evidence to support the claim that reclamation throughout the delineated petition area is not technologically feasible.

187. Congress emphasized that the petition process "does not require the designation of areas as unsuitable for surface mining other than where it is demonstrated that reclamation of an area is not physically or economically feasible under the standards of the act."[401] Based on all of the above -- in particular the prior state and federal permitting decisions and the many examples of successful reclamation -- and pursuant to the requirements of ASCMCRA, there is insufficient evidence in the administrative record for me to determine that reclamation of streambeds and riparian areas in the petition area is not technologically feasible.[402]

Petitioners' Allegation II: Surface coal mining operations will affect fragile land and could result in significant damage to important cultural, scientific, and aesthetic values and natural systems

188. Petitioners also allege that, pursuant to AS 27.21.260(c)(2)(B), the petition area should be deemed unsuitable for surface coal mining operations on the basis that "such operations will affect fragile land and could result in significant damage to important cultural, scientific, and aesthetic values and natural systems." In connection with this allegation, petitioners assert the following:

- The watershed contains fragile land within the meaning of the ASCMCRA regulations;

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400 House Committee Report No. 95-218 (1977), at 630.
401 U.S. Code Cong. & Admin. News 1977, p.630, and quoted by the Fifth Circuit in *Prager*, 793 F.2d at 732-34 (holding that the Secretary of the Interior had thoroughly considered the petitioner's allegation that reclamation would not be technologically or economically feasible, and the record supported the secretary's decision that there was insufficient evidence to support the allegation).
402 AS 27.21.260(c)(1).

- Surface coal mining within the watershed would result in significant damage to important cultural, scientific, and aesthetic values and natural systems;
- Significant harm will result to subsistence, commercial and sport fishing, complex and poorly understood hydrologic systems, the Cook Inlet beluga whale population, and aesthetic values.[403]

189. Under AS 27.21.260(c)(2)(B), the Commissioner "may designate an area as unsuitable for all or certain" coal mining activities "if the commissioner determines that operations in the area will…affect fragile or historic land in which the operations could result in significant damage to important historic, cultural, scientific, and aesthetic values and natural systems." This provision is considered discretionary, that is, the Commissioner may designate lands unsuitable at his or her discretion, but is not required to do so.

190. At the outset, the petitioners' Allegation II is verbatim to the Allegation II that they raised in the 2007 petition.[404] As with the 2007 Petition, the current petition contains only general assertions. With the exception of one new document,[405] the petitioners do not submit any new evidence to support this allegation since it was originally made in the 2007 Petition.[406]

191. Former Commissioner Irwin rejected this same allegation in the 2007 Petition, stating the following:

> It has been recognized that many of the lands within the petitioned area may hold some of the values that petitioners list. The petition also describes how many of those listed on the petition use the area and benefit from its resources. However, petitioners have provided no evidence to support allegations that surface coal mining operations -- if carried out in accordance with applicable, contemporary standards and regulations -- would result in significant damage to these values and natural systems, rendering the assertions speculative. Petitioners also fail to describe how the allegations are specific to petitioners' interests, that is, it does not describe the specific coal mining activities that would occur and on which lands within the petitioned area that would

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403 Petition at 33-45.
404 *See* Allegation II of 2007 Petition, at 25-36.
405 MacDonald, Glen M., *et al.*, *Rapid Early Development of Circumarctic Peatlands and Atmosphere CH4 and CO2 Variations*, 312 Science 285 (2006).
406 For this reason, petitioners' arguments are likely barred by res judicata and collateral estoppel.

> adversely affect the petitioners' interest. This correlation must be described in the petition to support the allegations. In addition, specific existing federal statutes address many of these issues, such as laws governing protection of cultural resources and protection of marine mammals, and any authorized coal development must comply with these laws.[407]

Commissioner Irwin also noted that the petitioners alleged "harms from potential coal storage and transport activities at Ladd Landing, but the petitioned area does not include Ladd Landing, and the petition likewise fails to assume that contemporary mining standards and regulations would apply to activities at the site."[408] Commissioner Irwin informed petitioners that they could submit a new petition providing evidence supporting their allegation, and that it would be considered.[409]

192. I concur with Commissioner Irwin's earlier findings, and also find, as discussed below, that the petition fails to provide any new information to support an unsuitability designation.

A. Fragile Lands

193. The petitioners' list of fragile lands for purposes of Allegation II includes streams and riparian areas, wetlands, and lands which support subsistence and commercial uses, as well as aesthetic values, and they consider these to meet the definition of "fragile lands."[410] Fragile lands are particular areas that could be damaged or destroyed by coal mining and reclamation.[411] Under 11 AAC 90.911(40), "fragile lands" means:

> …geographic areas containing natural, ecologic, scientific, or aesthetic resources that could be damaged or destroyed by surface coal mining and reclamation operations. Examples of fragile land includes, but is not limited to, uncommon geologic features, National Natural Landmark sites, groundwater recharge areas, valuable habitats for fish and wildlife, critical habitats for endangered species of animals and plants, critical wetlands, environmental corridors containing concentrations of ecologic and aesthetic features, areas of recreational value due to high environmental quality, buffer zones around areas where surface coal

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407 July 16, 2007 Decision on 2007 Petition at 10.
408 *Id.*
409 *Id.*
410 Petition at 34.
411 *See* 11 AAC 90.911(40) and 30 C.F.R. 762.5.

mining is prohibited; and important, unique, or highly productive soils or mineral resources.

194. In reviewing this allegation, DNR has also relied on OSM's clarification in the COALEX Report of the term "fragile land." OSM stated that the definition "is meant to provide guidance on what general types of resources can be considered fragile lands, not a list of areas which can or should *automatically* be designated suitable."[412]

195. OSM has stated in the COALEX Report that "[a]n interruption of certain activities or a diminution of particular values *during* mining is not sufficient to classify the land as fragile if the activities or values can be restored."[413] Thus, even though there is a potential for surface coal mining to affect the lands and values that petitioners reference, those factors alone do not justify an automatic finding that lands are "fragile" because petitioners need to show with specificity that *after* mining and reclamation the geographic area has been destroyed or damaged by the mining operations.

196. Moreover, even if the evidence demonstrates that fragile lands would be destroyed or damaged such a finding would not dictate that lands should be designated unsuitable for surface coal mining operations because when reviewing the petition, I must consider competent and scientifically sound data and information, as well as an array of statutory and regulatory factors. For example, I must strike a balance between protection of the environment and the need for coal as an essential source of energy, recognize that responsible extraction of coal is an essential and beneficial economic activity, take into account how contemporary coal mining practices (including performance standards) will minimize or avoid damage to an area, and consider the positions expressed about coal mining in this area in area plans and by the landowners.

197. Based on the area plans cited and described earlier in this decision, coal development in the Chuitna watershed has long been recognized as an important goal for and appropriate use of the area's lands. As described earlier under Allegation I, there is substantial evidence supporting that reclamation of the petition lands is technologically feasible. With the goals of these area plans in mind, and in light of

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412 COALEX State Inquiry Report – 156 (emphasis added).
413 *Id.* (emphasis added). The OSM COALEX Report – 156 provides additional guidance for making a decision under AS 27.21.260(c)(2)(B).

OSM's guidance above regarding fragile lands, I find that -- assuming contemporary coal mining practices are followed -- the petition and the administrative record do not present any evidence that lands within the petition area are fragile or that impacts in the petition area and associated values that petitioners claim for the area, would be significantly damaged.

B. Aesthetic Values

198. The petitioners raise concerns about potential impacts to aesthetic values from surface coal mining operations in the petition area. Activities that already affect the aesthetic values in the petition area and the greater Chuitna watershed include oil and gas exploration and development, exploration activities for coal, and commercial flight-seeing and guide services. Moreover, for much of the watershed, the land is privately owned, and petitioners' ability to gain access without authorization is questionable. Also, the visibility or noise associated with any specific project that might be permitted would depend on the viewshed in which the project is located (*e.g.*, the project operation may be inaccessible or the landscape situation may obstruct visibility of the activity), as well as the conditions placed on operations to minimize and avoid audio and visual impacts.

199. Because of the nature of surface coal mining operations, impacts to aesthetic values are anticipated. The 2000 Kenai Area Plan, Kenai Borough Plan, and various owners of large parcels of land in the watershed have all expressed their intent to propose coal development projects. While some impacts may be visible in localized areas where actual mining activities occur, because reclamation is conducted concurrent with mining on a rolling basis, and because reclamation must be completed before site closure is approved, impacts to aesthetic values will be substantially minimized. Impacts from noise, light pollution, or vehicle traffic associated with mining operations can also be mitigated as part of the mine plan or by stipulations during the permitting process. For instance, DNR previously dealt with noise and light issues with respect to development of the True North/Fort Knox mine near Fairbanks. Under ASCMCRA, the same or similar mitigation measures, as appropriate, can be accomplished through technical amendments pursuant to 11 AAC 90.127(2) and during the mine permitting process itself. Thus, potential impacts from surface coal mining operations in the petition area, if they occur, can likely be

minimized and avoided, or are unlikely to cause significant impacts to aesthetic values to warrant an unsuitability designation.[414]

C. Beluga Whales

200. The petitioners raise concerns that Cook Inlet beluga whales may be adversely impacted by surface coal mining in the petition area. On October 22, 2008, NMFS listed the Cook Inlet stock of beluga whales as endangered under the ESA.[415] This stock of beluga whale had also previously been listed by NMFS as depleted under the MMPA. Following the ESA listing,[416] NMFS delineated critical habitat within Cook Inlet for the beluga whale, and this habitat is adjacent to the petition area.[417]

201. There is no evidence in the administrative record that coal mining activities within the petition area, properly regulated in accordance with applicable performance standards (including those relating to protection of water quality), would have any down-stream significant, much less measureable, impact on beluga whales and their designated critical habitat. Outside the petition area and in the marine waters of Cook Inlet, impacts to belugas associated with surface coal mining operations involving shore-side bulk freighting activities would also likely be minimal, but would, in any event, be pointedly addressed on a project-specific basis in a multi-agency State and federal review, including consideration of potential impacts pursuant to NEPA, as well as federal review under the MMPA[418] and ESA[419]. For example, 11 AAC 90.423, dealing with protection of fish and wildlife, requires that any proposed project within the watershed that might pose a threat to threatened or endangered species and their critical habit would require consultation with State and federal fish and wildlife agencies to determine whether a specifically proposed project may proceed.

202. Regarding the significant adverse impacts that petitioners allege for both fish and beluga whales, petitioners fail to assume that contemporary coal mining

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414 AS 27.260(c)(2)(B).
415 More information is provided at the following link: http://www.nmfs.noaa.gov/pr/species/mammals/cetaceans/belugawhale.htm
416 The State of Alaska has filed a court action challenging this listing. *State of Alaska v. Lubchenco*, Case No. 10-0927 (D.C. D. 2010).
417 *Id.*
418 16 U.S.C. § 1361, *et seq.*
419 16 U.S.C. § 1531, *et seq.*

practices, including performance standards, will apply. Within a project area, impacts would have to be minimized using the best available technology,[420] in addition to acquiring Title 16 Habitat Permits from ADF&G that require mitigation of lost fish productivity due to mining in streams and riparian areas.[421] These permitting requirements would also address the petitioners' concerns raised about potential impacts to subsistence, commercial and sport fisheries. If a proposed project could not comply with these performance standards and others that will be required by state and federal regulatory authorities, then the project would not be permitted.

D. Natural Systems -- Global Warming/Greenhouse Gases

203. Petitioners contend that coal extracted from the Chuitna watershed, not just from within the confines of the requested petition area, would result in adverse effects to "another natural system -- the climate."[422] Petitioners claim that extraction activities in peatland in the watershed will release trapped methane gas. The petitioners also assert that the burning of coal by customers of coal extracted from the greater Chuitna watershed would also add CO_2 into the atmosphere, furthering global warming.

204. Petitioners appear to expect that because coal extraction and burning relating to coal extracted from the petition area may contribute to greenhouse gases, this potential contribution warrants designation of the area as unsuitable for coal mining activities. Followed to its logical conclusion this argument would dictate that all coal fields in the United States would need to be designated as unsuitable. Clearly, this was not what the U.S. Congress or Alaska Legislature had in mind. Indeed, the U.S. Congress and the Alaska Legislature expressed that there needs to be a balancing between coal use and environmental protection, especially when coal is recognized by both legislative bodies as an essential source of energy.[423]

205. Consideration of these issues are subject to my discretionary review.[424] I do not find that petitioners' arguments justify a lands unsuitable designation. Methane and CO_2 that might be released during mining and the burning of coal

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420 *See* Section D of this decision on Allegation I.
421 ADF&G's May 26, 2011 letter at 2.
422 Petition at 44.
423 30 U.S.C. § 1202(f); AS 27.21.010(b)(7).
424 AS 27.21.260(c)(2)(B).

(wherever that might occur) are just a few of many contributors to greenhouse gasses generated by human activity. Naturally occurring conditions also contribute to greenhouse gases. The contribution to greenhouse gases of coal extracted from the petition area would be minimal -- even when aggregated with greenhouse gases on a global basis -- and do not lead me to the conclusion that these would result in significant harm to natural systems.

206. For example, compared to the total production of coal in the United States, the one currently proposed project in the watershed (PacRim's proposed Chuitna Coal project) would, at maximum production, produce roughly one percent of the U.S. coal supply per year, and less than 0.2 percent of the world's annual production.[425] A rough calculation shows that this would correspond to approximately 0.04 percent of the world's greenhouse gas emissions. Moreover, the coal found in the Chuitna watershed is low sulfur, one of the cleaner burning fuels that could be burned to support basic power needs, in particular electricity.

207. While greenhouse gasses and their link to climate change is an important issue to both the State and the nation, addressing broad policy concerns regarding coal as a fuel source and global warming are outside the scope of the lands unsuitable petition process, and are handled at the national government level and through international agreements.[426]

208. Based on the above and the administrative record, I decline to use my discretionary authority under AS 27.21.260(c)(2)(B) to designate any of the petition area as unsuitable for surface coal mining operations.

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[425] Coal Statistics – World Coal Association website, http://www.worldcoal.org/resources/coal-statistics .

[426] The impact of climate change to arctic and subarctic regions is an important issue to the State of Alaska. Former Governor Sarah Palin, by Administrative order number 238, established the Alaska Climate Change Sub-Cabinet to advise the Office of the Governor on the implementation of Alaska's climate change strategy. Members of the sub-cabinet include the commissioners of the Departments of Environmental Conservation, Natural Resources, Fish and Game, Transportation, and Community and Economic Development, as well as the Vice Chancellor of Research for the University of Alaska Fairbanks. The purpose of this group is to develop strategies to mitigate the impacts of climate change while protecting Alaska's economic growth. This Sub-cabinet is developing recommendations for Alaska communities that will be impacted as a result of climate change.

<u>Petitioners' Allegation III:</u> Surface coal mining operations will affect renewable resource lands in which the operations could result in a substantial loss or reduction of long-range productivity of water supply or food or fiber products

209. Petitioners further assert that, under AS 27.21.260(c)(2)(C), the petition area should be deemed unsuitable for mining because surface coal mining operations "will affect renewable resource lands in which the operations could result in a substantial loss or reduction of long-range productivity of water supply or food or fiber products."[427] Petitioners allege that mining could impact productivity in the Chuitna watershed. Petitioners cite the potential for impacts to aquifer recharge and for increased sedimentation, which they say would harm salmon productivity, which they say in turn will harm subsistence, commercial, and sports fishing. They also claim that activities in the petition area will result in a substantial loss or reduction to moose populations in the area.[428] Finally, while citing no information to support the allegation, petitioners refer back to information they discuss in Allegations I and II of the petition.

210. Under AS 27.21.260(c)(2)(D), the Commissioner "may designate an area as unsuitable for all or certain" coal mining activities "if the commissioner determines that operations in the area will . . . affect aquifer recharge areas or other renewable resource land in which the operations could result in a substantial loss or reduction of long-range productivity of water supply or food or fiber products."[429] This provision is considered discretionary, that is, the Commissioner may designate lands unsuitable in his or her discretion, but is not required to do so.

211. The petitioners' Allegation III is verbatim to the Allegation III that they raised in the 2007 Petition.[430] As with the 2007 Petition, the current petition contains only general assertions, and petitioners fail to provide evidence to support this allegation. Nor do petitioners submit any new evidence to support this allegation since the 2007 Petition.

212. Former Commissioner Irwin rejected this same allegation in the 2007 petition, stating the following:

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427 Petition at 45-46.
428 *Id.*
429 Emphasis added.
430 *See* Allegation III of 2007 Petition, at 36-37.

> Petitioners fail to allege how lands throughout the petitioned area, in connection with any type of surface coal mining activity would suffer substantial loss or reduction of long-range productivity of aquifers and their recharge areas, or for food or timber products, including salmon and moose that petitioners specifically name. While they mention pumping operations and potential deposition of sedimentation relating to coal operations, these statements, of themselves, do not constitute significant facts to frame the allegation. Nor do the petitioners present any evidence to suggest that current surface coal mining practices, properly regulated, will not guard against the alleged harms.[431]

213. As with the first two allegations in the petition, petitioners fail with respect to Allegation III to assume that contemporary coal mining practices will be followed, including performance standards. While it would be reasonable to expect that surface coal mining operations would have some adverse impact on the aquifer within the actual mining area, there is insufficient evidence to demonstrate a substantial loss or reduction of productivity to the water supply, or food or fiber products. To the extent there might be an effect, there are performance standards created to minimize any effect. Under 11 AAC 90.329, an operator must (among other things) use the best technology currently available to minimize and avoid, for example, additional contributions of sediment to stream flow or to runoff outside the permit area. Likewise, under 11 AAC 90.423, an operator must (among other things) use best technology currently available to minimize disturbances and adverse impacts to, for example, fish and moose. Estimation of more specific impacts to aquatic productivity would also be addressed on a project-specific basis. Within a project area, impacts would also be addressed through a Title 16 habitat permit issued by ADF&G, which likewise would contain requirements to mitigate impacts to fish productivity due to mining in streams and riparian areas.[432]

214. Based on the above and the administrative record, I decline to use my discretionary authority under AS 27.21.260(c)(2)(C) to designate any of the petition area as lands unsuitable for surface coal mining operations.

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[431] July 16, 2007 Decision on 2007 Petition, at 10-11. Because this issue has been adjudicated and the matter was dismissed with prejudice by the Superior Court, this claim is likely barred by res judicata and collateral estoppel.

[432] ADF&G May 26, 2011 letter at 2.

Petitioners' Allegation IV: Surface coal mining operations will affect areas of unstable geology and other natural hazards in which the operations could substantially endanger life and property

215. Petitioners allege that, pursuant to AS 27.21.260(c)(2)(D), the petition area should be deemed unsuitable for surface coal mining operations on the basis that those operations will affect areas of unstable geology and other natural hazards which could substantially endanger life and property.[433]

216. Under AS 27.21.260(c)(2)(D), the Commissioner "may designate an area as unsuitable for all or certain" coal mining activities "if the commissioner determines that operations in the area will…affect areas subject to frequent flooding and areas of unstable geology, or other natural hazard land in which the operations could substantially endanger life and property." This provision is considered discretionary, that is, the Commissioner may designate lands unsuitable in his or her discretion, but is not required to do so.

217. Petitioners' Allegation IV is verbatim to the Allegation IV that they raised in the 2007 Petition.[434] As with the 2007 Petition, the current petition contains only general assertions, and petitioners fail to provide evidence to support this allegation. Nor do petitioners submit any new evidence to support this allegation since the 2007 Petition.

A. Earthquakes

218. Like Commissioner Irwin, I find that many of the conditions petitioners describe, *e.g.*, earthquakes, high winds, landslides, and severe winter ice conditions[435] occur in areas where surface coal mining activities have long been carried out under regulation without substantially endangering life and property. For example, the Usibelli Coal Mine near Healy, Alaska is located within the area impacted by the magnitude 7.9 earthquake on the Denali Fault in November 2002. Little or no damage was sustained within active or reclaimed surface coal mining areas. Only minor slump features, occurring within both disturbed and undisturbed areas, were noted. Petitioners fail to provide supporting evidence that the situation would be any different for any of the streambeds or riparian areas they delineate in the current petition.

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433 2010 Petition at 46-48.
434 *See* Allegation IV of 2007 Petition, at 37-39.
435 2010 Petition at 46-48.

219. The petitioners maintain that seismic hazards in the Chuitna watershed are extreme and would cause an increased ground failure hazard if the ground were disturbed by mining activities.[436] There are two strike slip faults that occur in the petition area -- the Bruin Bay Fault and the Castle Mountain Fault. According to the Division of Geological and Geophysical Surveys, these two faults have not shown signs of movement within the Holocene period (approximately the last 11,000 years) and therefore would not be characterized as "active."[437] In addition to their lack of recent movement, and due to the geology and character of the faults, they would be unlikely to generate a seismic event on the scale of the 9.2 magnitude Good Friday earthquake in 1964. Seismic Risk Zone 4 includes virtually all of the Southcentral Alaska region, including the Chuitna watershed. The region contains roads, pipelines, railroads, oil and gas platforms, power plants, oil and gas refineries, and buildings up to 20 stories in height, all designed to withstand seismic events in this risk zone.

220. There is no evidence in the administrative record to support the allegation that surface coal mining operations, if properly regulated, would nonetheless adversely affect renewable resource lands in an earthquake event.

B. Volcanic Hazards

221. With respect to any volcanic hazards, the petitioners claim there are four volcanoes on the west side of Cook Inlet that create a volcanic risk.[438] These volcanoes include: Augustine, Iliamna, Redoubt, and Mount Spurr. Direct impacts from volcanic hazards with the Chuitna watershed would most likely be associated with Mount Spurr, the closest volcano.

222. A Preliminary Volcano-Hazard Assessment for Mount Spurr Volcano[439] indicates that within the Chuitna watershed there exist minimal volcanic hazards associated with an eruption. Only a small area of the southwestern edge of the watershed is within the zone of debris avalanche hazards. Volcanic ash hazards depend on the prevailing wind at the time of an eruption. They are predominantly a threat to aircraft operations and only apply to a much lesser extent to ground-based

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436 Petition at 47.
437 DGGS, DNR Large Mine Coordinator Tom Crafford and DGGS Deputy Director Rob Cornbellick, July 12, 2007.
438 Petition at 47.
439 Preliminary Volcano-Hazard Assessment for Mount Spurr Volcano, Alaska, Open –File report 01-482, 2002.

operations. Within the Chuitna watershed, a volcanic ash fall from Mount Spurr might necessitate a suspension of ground-based mining operations, but would be unlikely to constitute a significant danger to health or property, at least no more so than falling ash in the nearby communities of Tyonek or Beluga. Assuming that contemporary coal mining practices will be adhered to, the presence of mining activities in the petition area would not exacerbate an air quality situation that might result in combination with a volcanic eruption and there is no evidence in the record to support such a conclusion.

C. Winter Ice & High Wind Conditions

223. The petitioners raise concerns that winter ice conditions along with strong currents in Cook Inlet could substantially endanger life or property, either directly, or as a result of spills of fuel or coal, connected with a coal shore-side marine freight facility that may be permitted and built for transferring coal to transport ships.[440] This allegation describes potential circumstances that would occur outside the petition area.

224. This allegation does not address why surface coal mining operations within the petition area itself is a hazard. The currently proposed Chuitna Coal Project proposes a freight transport facility located outside the delineated petition area.[441] Thus, the allegation contains matters outside the scope of this decision.

225. Even if the petitioners had delineated a coal-bearing area that would encompass shore facilities, I would not find support for the allegation. Marine shipping activities in Cook Inlet occur year-round for several ports in the Inlet, involving the transport of a variety of products (both raw resources and finished consumer products). Ice conditions/floes are issues that are commonly encountered and are successfully addressed by marine traffic in Cook Inlet during winter months. To assist with navigation and docking during ice conditions, the U.S. Coast Guard has developed operating procedures for different portions of Cook Inlet.[442] These operating procedures are designed to set minimum transit and docking requirements to lessen

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[440] Petition at 47.
[441] Applicant's Proposed Project; April 2011, http://www.chuitnaseis.com/documents/Current-Project-Description.pdf , at 8.
[442] 2008 Operating Procedures for Ice Conditions in Cook Inlet, U.S. Coast Guard (December 2008).

the chance of shipping accidents. In addition, a port operator and the U.S. Coast Guard have the option of shutting down operations if they feel conditions warrant, as noted in the February 1999 closure of the Port of Nikiski due to heavy ice conditions.[443] I find that reasonable and appropriate conditions could be imposed on any coal mining operations to minimize and avoid this particular concern, and that the allegation does not warrant designating an area that is, in the first instance, outside the petitioners' delineated petition area.

226. In the effort to support their allegation regarding high wind conditions, petitioners state that "[r]ecent events in Seward, Alaska" that involved high wind conditions, dry weather and fugitive coal dust emissions from coal stockpiled and handled at a vessel transport facility resulted in issuance of a citation by the Alaska Department of Environmental Conservation against the Alaska Railroad "for failing to control the fugitive emissions and for allowing pollution that is harmful to health and property."[444] This allegation is verbatim to that raised in the 2007 Petition. I concur with former Commissioner Irwin's 2007 finding and conclusion[445] that the referenced event simply does not support petitioners' allegation, inasmuch as the violation occurred as a consequence of the Alaska Railroad's failure to follow/comply with existing air quality standards and requirements.

227. Based on the above and the administrative record, I decline to use my discretionary authority under AS 27.21.260(c)(2)(D) to designate any of the petition area as lands unsuitable for surface coal mining operations.

Petitioners' Allegation V: Lands Exempt from Designation under AS 27.21.260; Streambeds and Associated Riparian Areas Within Logical Mining Unit 1

228. Petitioners requested that streambeds and associated riparian areas that exist in the Chuitna watershed, including those that may traverse LMU-1, be included in my deliberations on the January 21, 2010, petition. PacRim asserts that lands delineated by the petition that may lie with LMU-1 are exempt from petition review.

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443 *Heavy ice in Cook Inlet halts marine traffic*, posted by the Associated Press, Tuesday, February 09, 1999.
444 Petition at 48.
445 July 16, 2007 Decision on 2007 Petition, at 12.

229. As part of the settlement relating to a judicial proceeding involving an Alaska Civil Rule 601 administrative appeal of former Commissioner Irwin's decision on the 2007 petition, DNR agreed that lands within LMU-1 would not be held exempt -- based on the 1980s Diamond Shamrock coal permitting process -- from a future petition proceeding.[446] Thus, the petition lands contained within LMU-1, along with the greater petition area that meanders throughout the Chuitna watershed, have been considered in rendering this decision.

Statutory and Constitutional Obligations to Facilitate Responsible Development of Coal Resources

230. Other statutory and constitutional factors play a part in my determinations on this petition. As previously explained with the 2010 Petition, the petitioners have refined the area for which they seek an unsuitability designation, compared to what they sought under the 2007 Petition. Given the meandering nature and length of the petition area throughout the larger Chuitna watershed designation of the petition area, or any portion thereof, would have a significant fragmenting impact on the coal resources throughout the watershed and would affect a potential operator's ability to economically and efficiently access and extract the coal resource. In short, a designation would affect the feasibility of project-specific coal mining and deter coal resource development. Because of this, granting the requested designation would likely result in a de facto designation of the entire watershed as unsuitable for coal mining. Such a result would undercut my ability to carry out other important ASCMCRA objectives, including:

- assuring "that the coal supply essential to the nation's energy requirements and to its economic and social well-being is provided and to strike a balance between protection of the environment and other uses of the land and the need for coal as an essential source of energy;"[447] and

[446] No other aspect of Commissioner Irwin's decision on the 2007 petition was changed or withdrawn, and the associated Rule 601 administrative appeal was dismissed with prejudice.

[447] AS 27.21.010(b)(7).

- assuring "that reclamation of land on which surface coal mining takes place is accomplished as contemporaneously as practicable with the surface coal mining, recognizing that the responsible extraction of coal by responsible mining operators is an essential and beneficial economic activity."[448]

231. As DNR Commissioner, I also have responsibilities under the Alaska Constitution and AS 44.37.025(a) to encourage and allow responsible resource development.

232. While these obligations and the manner in which they are carried out greatly depend on the context and facts in which resource development questions -- such as this petition -- are raised, these obligations are nonetheless important factors in my decision. Notably, as set out in detail at the outset of this document, I recognize that the majority of landowners in the Chuitna watershed were motivated in great part to select their lands because of the presence of significant coal resources and the financial prosperity, employment opportunities, and enhanced social well-being that development of those lands would bring, not just to private industry, but to Native corporation shareholders and Mental Health Trust beneficiaries, as well as local residents and the public at large. Thus, to the extent that any landowner or lessee in the area may propose a surface coal mining project capable of demonstrating compliance with applicable state, federal, and local requirements, and that such operations therefore can be responsibly conducted, then such operations would further these important statutory and constitutional directives.

Decision [October 24, 2011]

233. The information contained in the administrative record, including that provided with the petition, is insufficient to support Allegation I.

234. Regarding Allegation II there is insufficient evidence to support this allegation or that the petition area constitutes "fragile lands." I therefore decline to use my discretionary authority under AS 27.21.260(c)(2)(B) to designate any of the petition area as fragile lands or as lands unsuitable for surface coal mining operations.

[448] AS 27.21.010(b)(5).

235. Regarding Allegation III there is insufficient evidence to support this allegation. I therefore decline to use my discretionary authority under AS 27.21.260(c)(2)(C) to designate any of the petition area as lands unsuitable for surface coal mining operations.

236. Regarding Allegation IV, there is insufficient evidence to support this allegations. I therefore decline to use my discretionary authority under AS 27.21.260(c)(2)(D) to designate any of the petition area as lands unsuitable for surface coal mining operations.

237. Regarding Allegation V, all of the streambeds and riparian areas delineated by the petition were included in my review of the petition, including those which meander through the Chuitna Coal Project LMU-1 area.

238. Commissioner Irwin agreed that lands within LMU-1 would not be held exempt under AS 27.21.260(g) from petition review based on the Diamond Shamrock coal permitting process. Commissioner Irwin did not, however, otherwise withdraw or change any aspect of his decision on the 2007 Petition, and the petitioners' associated Rule 601 administrative appeal on the 2007 Petition decision was dismissed with prejudice by the Superior Court. A dismissal with prejudice, including a stipulation to dismiss with prejudice, "is treated as a dismissal on the merits and is, therefore, a final judgment on the merits … operating as res judicata." *Smith v. CSK Auto, Inc.*, 132 P.3d 818, 820 (Alaska 2006). Res judicata (claim preclusion) and collateral estoppel (issue preclusion) "bind the parties and their privies to factual findings, as well as legal conclusions, that have been the subject of prior litigation," and "administrative agency decisions can have preclusive effect on later court proceedings, so that if a party participates in an administrative adjudication, … the adjudication may foreclose the possibility of a later lawsuit on the same factual issues." *Alaska Public Interest Group v. State*, 167 P.3d 27, 44 (Alaska 2007). The Alaska Supreme Court has also stated that (1) "'principles of finality may be applied to the decisions of administrative agencies if, after case-specific review, a court finds that the administrative decision resulted from a procedure that seems an adequate substitute for judicial procedure and that it would be fair to accord preclusive effect to the administrative decision'" and that (2) the collateral estoppel doctrine "may be applied to an administrative decision if the decision is one 'rendered pursuant to an exercise of

primary jurisdiction.'" *Harrod v. State, Dep't of Revenue*, 255 P.3d 991, 1000 (Alaska 2011) (citations omitted). In rendering my decision on the 2010 petition, I expressly preserve, and in no way hold contrary to, the final findings of Commissioner Irwin on the evidence and allegations that petitioners asserted in the 2007 petition and which petitioners now reassert nearly verbatim in the 2010 Petition. I also expressly preserve the defenses of res judicata and collateral estoppel for Commissioner's Irwin's final findings for purposes of any future litigation that may be brought on the 2010 Petition.

239. Any remaining allegations raised by petitioners that have not been specifically addressed by this decision are rejected.

240. While there is insufficient evidence to support any of the allegations, some of the petitioners' allegations raise reasonable concerns regarding whether water quality, wetlands, the hydrologic balance of the larger Chuitna watershed, fish and wildlife habitat, and other resources can be adequately protected if surface coal mining occurs within the petition area. These concerns are, however, more effectively and appropriately addressed in the application of regulatory requirements, including the performance standards that are incorporated in ASCMCRA mine permits, if a proposed mine is ultimately approved anywhere within the Chuitna watershed. Moreover, the potential impacts from any proposed coal mining project will be addressed through multi-agency State and federal review, including under NEPA.

241. It is important to note that this decision to not designate the petition area as unsuitable for all or certain types of coal mining activities does not mean that surface coal mining will automatically be approved in this area. This decision simply denies petitioners' request to preemptively shutdown the Chuitna watershed from the possibility of surface coal mining operations. The designation process is independent of the permitting and mine planning processes that are subject to multi-agency regulatory reviews by several state, federal and local agencies, and these processes may prohibit or otherwise curtail coal mining activities on a project specific basis. A permit by DNR will not, however, be issued unless a coal mining proposal demonstrated the capacity to comply with all applicable requirements, including ASCMCRA performance standards.

PART III. POINTS RAISED IN PETIONER'S REQUEST FOR RECONSIDERATION AND DEPARTMENT RESPONSES

On November 15, 2011, Trustees for Alaska submitted a letter on behalf of their clients, Chuitna Citizens Coalition and Cook Inletkeeper (petitioners) requesting reconsideration of the October 24, 2011 Decision.[449] Reconsideration of the October 24, 2011 Decision was granted on November 30, 2011. The petitioner's request for reconsideration outlined 36 points titled "Basis Upon Which Reconsideration is Requested and Disputed Material Facts." The following section provides the Department's analysis and response to each of the 36 points raised by the petitioners in their request for reconsideration, as well as in the petitioners' November 22, 2011 memo and associated exhibits.[450]

These responses are based on the full administrative record as compiled to date, and take into consideration all of the material in support of the request for reconsideration provided by the petitioners in their November 22, 2011 memo and associated exhibits.

1. <u>"The decision erroneously concludes that a legal requirement or permit condition for compliance with performance standards presumes the technological ability to comply with the performance standards or permit conditions."</u>

The October 24, 2011 Decision was clear that, for purposes of a lands unsuitable petition, DNR and the petitioners are *required* to assume that contemporary mining practices required by statute will be followed for coal mining operations that might occur in the petition area.[451] The October 24, 2011 Decision found that the 2010 Petition did not adequately acknowledge this fact.[452] Assuming

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[449] Letter from Valerie Brown of Trustees to Commissioner Dan Sullivan, titled *"Re: Request for Reconsideration; October 24, 2011, Decision on Petition Requesting that the Chuitna River Watershed Be Determined Lands Unsuitable for Surface Coal Mining"* and dated November 15, 2011.

[450] These divisions are provided for ease of reference, and to provide parallelism to the request for reconsideration. They do not necessarily represent particular criteria or required elements for the grant or denial of a lands unsuitable petition that must be considered by DNR. The only applicable standards are laid out in the relevant portions of ASCMCRA and the associated AAC regulations discussed *infra.* The October 24, 2011 Decision and its affirmation upon reconsideration is grounded in these legal standards.

[451] *See, e.g.*, Findings and Decision at p. 3.

[452] *See* October 24, 2011 Decision at ¶¶ 121, 156, 161, and 168.

these contemporary mining practices were utilized, the full administrative record did not demonstrate that reclamation in the petition area was not technologically feasible. In fact, much of this evidence supported a conclusion that these practices could meet all of the performance standards, and therefore reclamation may be technologically feasible.[453]

This allegation also misrepresents the permit process. ASCMCRA clearly requires the Commissioner to issue permits only when the applicant can comply with the regulatory environmental performance standards.[454] DNR does not issue prospective permits; instead, any permit that is issued is in response to an application and mining plan submitted by a project proponent. When considering an application, DNR uses its institutional expertise to evaluate whether a proposed plan conforms to the requirements of ASCMCRA and other applicable statutes and regulations, including the performance standards for reclamation. If an application meets these criteria it may be granted, with permit conditions to ensure the project operates according to the submitted plan. If the application does not meet these criteria, the mining plan would have to be modified or the permit may be denied. Thus any issued permit presumes the technological ability to comply with the applicable standards, and a failure to comply would result in the permit holder's liability for violations.

Contrary to the petitioners' implications, DNR recognizes ASCMCRA creates a category of areas where no permit could ever be issued, because no application could conform to the legal requirements and performance standards necessitated by law. These areas can properly be designated as lands unsuitable for coal mining, and all mining activity prohibited on them. However, ASCMCRA did not create a presumption against all coal mining activity, but sought to eliminate *unregulated* coal mining, and provide for *responsible* mining with thorough environmental protection through regulation.[455] To say an area cannot be reasonably mined *at all* and must be completely protected places it in an inherently statutorily-limited category.

While the petitioners renew their assertion that reclamation within the petition area is not technologically feasible, they continue to presume rather than demonstrate that contemporary mining practices cannot meet the performance standards.

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[453] *Id.* at pp. 6 – 7.
[454] AS 21.21.210.
[455] AS 27.21.010(b).

2. **"**The decision erroneously concludes that the dismissal of the litigation over the previous petition was a dismissal on the merits, operating to bar future litigation on a subsequent petition."

DNR is not the proper tribunal before which to raise this argument. The October 24, 2011 Decision did not state that there is a "bar to future litigation on a subsequent petition." Res judicata (claim preclusion) and collateral estoppel (issue preclusion), which "bind the parties and their privies to factual findings, as well as legal conclusions, that have been the subject of prior litigation,"[456] are judicial doctrines, and are applicable in judicial proceedings as determined by the courts in the course of interpreting and applying the law. DNR expressly reserves the right to use these defenses in future litigation and has not waived them in any manner.[457]

While the applicability of res judicata and collateral estoppel is a matter for the courts, it cannot be disputed that the prior litigation on the 2007 Petition was dismissed with prejudice by the Alaska Superior Court.[458] The Alaska Supreme Court has expressly held that "a dismissal with prejudice is treated as a dismissal on the merits and is, therefore, a final judgment on the merits… operating as res judicata."[459] Therefore, to the extent that subsequent litigation covers issues that were considered in the litigation related to the 2007 Petition, the State has a strong argument that res judicata and/or collateral estoppel may be applicable.

The underlying question alluded to by the petitioners is whether Commissioner Irwin considered the merits of the 2007 Petition in the course of his review. An answer to this question would inherently be a part of the analysis of res judicata and collateral estoppel, and in that respect it would also properly lie before a court rather than DNR. However, the role that Commissioner Irwin's analysis plays in informing the administrative record is a distinct issue. On this point, the petitioners claim that "DNR never considered the substantive grounds raised by petitioners" in the 2007

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[456] *Alaska Public Interest Group v. State*, 167 P.3d 27, 44 (Alaska 2007) (also holding that "administrative agency decisions can have preclusive effect on later court proceedings, so that if a party participates in an administrative adjudication… the adjudication may foreclose the possibility of a later lawsuit on the same factual issues").
[457] October 24, 2011 Decision at ¶ 238.
[458] December 16th, 2008 Order Dismissing Appeal with Prejudice, *Chuitna Citizens NO-COALition, Inc. v. Irwin, et al.,* Case No. 3 AN-08-6009CI (2008).
[459] *Smith v. CSK Auto, Inc.*, 132 P.3d 818, 820 (Alaska 2006).

Petition,[460] and further that "nothing in the earlier DNR decisions… or in the settled lawsuit arising from that petition, *has any bearing* on DNR's review of the 2010 Petition."[461] This would include Commissioner Irwin's return of the 2007 Petition as "incomplete… frivolous and without merit."[462]

It is clear that the petitioners and DNR made a pointed and deliberate agreement to settle the legal action that petitioners brought challenging Commissioner Irwin's decision on the 2007 Petition.[463] The petitioners received DNR's commitment that lands within LMU-1 would not be held exempt—based on the 1980s Diamond Shamrock Chuitna Coal Project permitting process— from a future petition proceeding. The October 24, 2011 Decision regarding Allegation V were consistent with this commitment. In exchange, the petitioners expressly agreed that "[n]o other aspect of the February 14, 2008 decision by Commissioner Tom Irwin is being withdrawn,"[464] and that their challenge to the Commissioner's decision on the 2007 Petition would be dismissed with prejudice. While the effect of this dismissal on res judicata and/or collateral estoppel in any future litigation can only be addressed by a court, it most certainly preserves the DNR Commissioner's ability to cite Commissioner Irwin's analysis, and confirms its place in the administrative record.

Commissioner Irwin's rejection of the 2007 Petition as incomplete was necessarily intertwined with its merits, as he determined that the 2007 Petition was missing the statutorily required "allegations of facts with supporting evidence that would tend to establish the allegations."[465] Critically, Commissioner Irwin found that

> [t]he petition did not assume, as it must, that contemporary mining practices required under applicable regulatory programs would be followed if the areas were mined. Therefore, the petition – by failing to acknowledge such practices and instead leaping to alleged harms – has no merit.[466]

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[460] November 15, 2011 Request for Reconsideration, at p. 1; *See also* November 22nd memo, Section D, at p. 6.
[461] November 22nd memo, Section G, at p. 7. (emphasis added).
[462] Letter from Commissioner Tom Irwin to Rebecca Bernard of Trustees titled *"Subject: August 6,2007 Request for Reconsideration of the Commissioner's July 16, 2007 Decision on Petition Requesting that the Chuitna River Watershed be Determined Lands Unsuitable for Surface Coal Mining."* and dated February 14th, 2008 at p. 1 (affirming DNR's denial of the 2007 Petition upon reconsideration).
[463] December 16th, 2008 Order Dismissing Appeal with Prejudice, *Chuitna Citizens NO-COALition, Inc. v. Irwin, et al.,* Case No. 3 AN-08-6009CI (2008).
[464] *Id.*
[465] AS 27.21.260(b); 11 AAC 90.703.
[466] Feb. 14th 2008 letter at p. 4.

The October 24, 2011 Decision undertook a full review of the 2010 Petition on the merits, including all of the new material submitted by the petitioners,[467] and considered Commissioner Irwin's prior findings, especially regarding portions of the 2010 Petition that repeated verbatim the allegations of the 2007 Petition. The October 24, 2011 Decision concurred that many of the petitioners' arguments still suffered from the flaw quoted above.

The petitioners also imply that the narrowed scope of the petition area in the 2010 Petition warrants an entirely new evaluation, unrelated to Commissioner Irwin's analysis of the 2007 Petition. All of the areas subject to the 2010 Petition were also part of the 2007 Petition area. While the 2010 Petition area is reduced in absolute size, the October 24, 2011 Decision found that the designation sought by the 2010 Petition was functionally equivalent to that of the 2007 Petition.[468] As the size and scope of the petition area was not the sole fault that Commissioner Irwin found with the 2007 Petition, the October 24, 2011 Decision did not ignore his analyses due to these changes in the delineation of the petition area.

3. **"**The decision erroneously relies on prior permitting processes to substitute for the application of the correct legal standard for review for this Petition."

This is an example of the petitioners conflating 'reliance' with 'consideration.' While it would be improper to rely solely on prior permitting processes and to exclude other competent and scientifically sound data and information, it would also be improper to refuse to consider prior permitting processes at all.

The correct legal standard for conducting review of an unsuitability petition is found in statute, and requires that the Commissioner use competent and scientifically sound data and information in his decision making.[469] Essential to this review is the use of the State's database and inventory system, a repository of "information that becomes available from federal, state, and local agencies, petitions, publications, studies, experiments, permit applications, surface coal mining operations, and other

[467] Petitioners submitted 26 additional exhibits with the 2010 Petition, including reports relating specifically to PacRim's Chuitna Coal Project.
[468] October 24, 2011 Decision at ¶ 63.
[469] AS 27.21.260(a).

sources" regarding reclamation.[470] This data and information includes information regarding coal resources in Alaska and the environment and natural resources of Alaska.[471]

The database and inventory system includes documents that deal specifically with reclamation within the Chuitna watershed, including – the prior permitting reviews by DNR and the EPA of the Diamond Shamrock Chuitna Coal Project. These decisions are formal regulatory actions conducted with appropriate administrative processes, and assist in understanding the environment, resources, and technological feasibility of reclamation in the petition area. The consideration of this information to render a decision on the 2010 Petition complies with pointed direction given in ACMCRA for the Commissioner to consider competent and scientifically sound data and information.[472] Disregarding these documents would be inappropriate.

4. **"**The decision erroneously relies on a prior, now defunct project application and litigation over permitting that project to conclude that reclamation of the streambeds and riparian areas in the Chuitna Watershed is technologically feasible."

As described above, the consideration of relevant information is distinct from improper reliance. In regard to the Diamond Shamrock Chuitna Coal Project, DNR found that reclamation was feasible and issued permits for the project. In the 1992 Alaska Supreme Court *Gorsuch* case, the Court specifically upheld DNR's decisions regarding reclamation as being within DNR's institutional expertise and consistent with DNR's statutory authority. Therefore, if the October 24, 2011 Decision had relied exclusively on the results of prior litigation, the *Gorsuch* case would have been dispositive and DNR's analysis of the 2010 Petition would have been much more narrowly focused than it was. Instead, the October 24, 2011 Decision found these prior decisions to be pieces of competent and scientifically sound data in accordance with the statutory standard, and therefore considered them in the context of the full administrative record.

[470] 11 AAC 90.707(d).
[471] 11 AAC 90.707(c).
[472] October 24, 2011 Decision at ¶ 37.

The petitioners emphasize that the ultimate result of the *Gorsuch* case was to remand the permit approval to DNR to resolve issues about which facilities were included in the permit and about the amount and terms of the reclamation bond. They argue that the permit is vacated, invalidated, or defunct due to this remand and the lapse of time since its original issuance.[473] However, the current status of this particular permit did not have a direct bearing on the October 24, 2011 Decision – the ASCMCRA exemption was not applied and no portion of the petition area was deemed exempt.[474]

The thorough process supporting the prior Diamond Shamrock permit is the material that is relevant to the 2010 Petition. The petitioners equate citing the *Gorsuch* decision's support of this process in the course of an unsuitability petition with citing it during a future site specific permitting evaluation.[475] While they are correct that one applicant's compliance with the law cannot be used to claim that a future applicant necessarily will comply, it does support the proposition that the law can be followed. Consequently, the October 24, 2011 Decision considered the prior Diamond Shamrock permit and the Supreme Court's support of DNR's reclamation determination, in addition to all of the other competent and scientifically sound data and information that has been gathered for the petition area since 1992.

5. **"**The decision erroneously relies on the 1990 FEIS prepared for a former application for surface coal mining."

Information from prior permitting in the Chuitna watershed, including the 1990 FEIS, was not determinative for the October 24, 2011 Decision, but was considered to be competent and scientifically sound data and information, and was therefore considered in the course of reviewing the full administrative record.[476]

[473] See November 22nd memo, Section E, at pp. 7-8.
[474] October 24, 2011 Decision at ¶¶ 228 – 229, 237.
[475] November 22nd memo, Section E, p. 8, n. 5.
[476] EPA's FEIS is also discussed *infra* at Section II.B.3.

6. "The decision erroneously relies on a 1990 Alaska Supreme Court decision."

Petitioners appear to again be referencing the 1992 Alaska Supreme Court *Gorsuch* case. The October 24, 2011 Decision considered this case to be an important part of the legal framework regarding reclamation and a relevant analysis of information related to the Chuitna watershed. The case was evaluated within the context of the full administrative record in order to render the October 24, 2011 Decision.

7. "The decision improperly relies on ASCMRA policy goals balancing U.S. energy needs and environmental protection. Nothing in the record supports any conclusion other than that coal mined from the Chuitna Watershed will be sold in foreign markets."

ASCMCRA recognizes "that the responsible extraction of coal by responsible mining operators is an essential and beneficial economic activity," and assures "that the coal supply essential to the nation's energy requirements and to its economic and social well-being is provided."[477] ASCMCRA also instructs the Commissioner to prepare a statement regarding these legislative purposes before making any unsuitability designation.[478] It was appropriate to consider these policy goals when evaluating the 2010 Petition. The October 24, 2011 Decision did not rely on them exclusively, claim that they justified disregarding evidence in the administrative record, or state that they trumped ASCMCRA's clear legal standards.

ASCMCRA does not contain any provisions mandating domestic consumption or restricting the international sale of Alaska's coal resources. Coal mining is statutorily preserved in ASCMCRA because it is an essential and beneficial economic activity, not solely because it provides domestic energy. The economic and social well-being that coal mining activity supports through profitable businesses and domestic employment does not depend on consuming coal within Alaska.

Furthermore, the October 24, 2011 Decision did not claim that coal from a Chuitna project would be exclusively sold or used in Alaska, or in the domestic U.S. coal market. It acknowledged that one of the currently operating coal mines in Alaska

[477] AS 27.21.010(b)(5), (b)(7).
[478] AS 27.21.260(e).

supplies all local demands for coal and exports a portion of its production.[479] A currently proposed project in the petition area also acknowledges that there is not a current commercial market for coal sales within Alaska.[480] The role that coal plays in providing a stable and affordable source of energy, as recognized in ASCMCRA, requires securing domestic supply and meeting domestic demand. Domestic production, even in the absence of domestic consumption today, supports energy supply security.

Competition between coal and other energy sources has increased within the U.S. and has decreased the share of U.S. electric generation powered by coal.[481] However, coal-fired power plants still generate over 40% of the electricity produced in the U.S.[482] and therefore coal remains critical to U.S. energy supply, especially in an era where energy security continues to be a pressing national issue. International demand for coal is predicted to continue to increase[483] and coal will be mined worldwide to meet this demand. Alaska coal features some of the lowest sulfur content of any other coal source in the United States,[484] which puts Alaska in a unique position to help meet domestic and foreign demands while limiting emissions of harmful pollutants.

8. **"**The decision improperly relies on general policy goals to fulfill DNR's obligation to make a factual, objective inquiry into, and decision about, feasibility of reclamation and the harm that is likely to occur to food supplies and natural systems in the watershed."

The October 24, 2011 Decision is not a dismissal of the petition for general policy reasons. A compulsory lands unsuitable designation requires the Commissioner

[479] October 24, 2011 Decision at ¶ 66.
[480] PacRim Coal Proposed Project, April 2011, available at http://www.chuitnaseis.com/documents/Current-Project-Description.pdf
[481] Coal share of U.S. power generation has decreased from 49% in 2007 to 42% in 2011. *See, e.g.,* U.S. Energy Information Administration (EIA) "Energy in Brief", available at http://www.eia.gov/energy_in_brief/article/role_coal_us.cfm.
[482] U.S. Energy Information Administration (EIA) "Energy in Brief", available at http://www.eia.gov/energy_in_brief/article/role_coal_us.cfm
[483] *See, e.g.,* January 16, 2013 National Mining Association press release, available at http://www.nma.org/index.php/press-releases-2013/519-u-s-coal-outlook-brightens-on-global-and-domestic-demand.
[484] Flores, *et al.*, Alaska Coal Geology, Resources, and Coalbed Methane Potential (Nov. 2005), at USGS website: http://pubs.usgs.gov/dds/dds-077/.

to determine, after reviewing all competent and scientifically sound data and information in the administrative record, that reclamation in accordance with ASCMCRA is not technologically feasible in the petition area.

Policy concerns are not stricken from the unsuitability designation analysis, as ASCMCRA explicitly instructs the Commissioner to make a detailed statement of how the environment, the economy, and the supply and demand for coal would be affected before making a designation.[485] This kind of statement could not be prepared without addressing the general policy issues inherent in the broad categories of "the environment" and "the economy." The Commissioner must also "consider present and future land planning and regulation processes at the federal, state, and local levels."[486] This language would not be present in ASCMCRA if the Commissioner was not intended to review the broad environmental, economic, or land management policy consequences of granting an unsuitability petition.

The breadth of considerations involved in lands unsuitability petitions has been clearly recognized by OSM, which has stated: "The reality of the situation is…that there are too many variables to be taken into account [in reviewing a petition] and only occasionally will the presence of certain conditions, by themselves, be sufficient information on which to base a designation decision."[487]

9. **"**<u>The decision improperly relies on the desire of some landowners and leaseholders in the Chuitna watershed to strip mine for coal."</u>

The October 24, 2011 Decision did not improperly rely on the opinions of landowners or leaseholders, some of whom intervened in the petition process and formally expressed their interests through comments, but rather considered them as part of the full administrative record, as discussed throughout this decision and in the October 24, 2011 Decision.

A lands unsuitable designation necessarily implicates the economic interests of land owners, land management and planning authorities, and lessees of the petition

[485] AS 27.21.260(e).
[486] AS 27.21.260(f).
[487] 44 Fed. Reg. 14998-99 (preamble to promulgation of SMCRA regulatory criteria in 30 C.F.R. 762.11(a) (March 13, 1979)).

lands, because it could affect their land rights. Even where reclamation is not technologically feasible and the mandatory standard is applicable, ASCMCRA states that the Commissioner "must consider present and future land use planning and regulation process at the federal, state, and local levels."[488] Under the discretionary standard, these considerations must be evaluated to balance environmental protection with economic land use as directed by ASCMCRA.

A primary landowner within the petition area, and the lessor of current coal mining leases, is the Alaska Mental Health Trust Land Office (TLO). This state entity carries out a statutory delegation to manage the Alaska Mental Health Trust's land for the beneficiaries of the trust,[489] who represent Alaska's most vulnerable population, including individuals with mental illness, developmental disabilities, chronic alcoholism, and Alzheimer's disease and related dementia. [490] Its duties, as described by regulation, are:

> "(1) maximization of long-term revenue from trust land; (2) protection of the corpus; (3) protection and enhancement of the long-term productivity of trust land; (4) encouragement of a diversity of revenue-producing uses of trust land; and (5) management of trust land prudently, efficiently, and with accountability to the trust and its beneficiaries."[491]

The TLO formally intervened in the petition process to explain its legal responsibilities, and to explain how these responsibilities are tied to the legal standards the Commissioner must consider in the course of considering a petition for a lands unsuitability designation. In addition, the TLO submitted comments in response to the petitioner's request for reconsideration. As discussed in points 13 and 24 below, the landowner also must necessarily be involved in discussions regarding reclamation, due to its role in post-mining land use determinations.

In the context of the discretionary standard applicable to Allegations II, III, and IV from the 2010 Petition, landowners' interests are especially relevant. In addition to the TLO, Tyonek Native Corporation and PacRim formally intervened and filed comments on the 2010 Petition. TNC stated that it supports responsible coal mining,

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[488] AS 27.21.260(a)(1); AS 27.21.260(f).
[489] AS 38.05.801.
[490] http://www.mhtrust.org/layouts/mhtrust/files/documents/about_aboutdocs/Trust_Overview_update2011.pdf.
[491] 11 AAC 99.020.

that the lands it owns within the petition area may be rich in coal, and that mining activities have the potential to drive economic growth for TNC shareholders and local residents. PacRim, which currently holds leases issued by the TLO for coal mining in portions of the petition area, described its interests in utilizing these rights and developing a coal mining project in the area.[492]

The petitioners cite public opinion and comment that is critical of coal mining in the Chuitna watershed to imply that the land holders' interests in the land should be discounted.[493] One of ASCMCRA's clear purposes is to protect all people with "an interest in the land" from "*unregulated* surface coal mining operations." The petition process does not provide for public referenda on coal mining projects or coal mining generally.[494] Public concerns are considered in the full mix of pertinent information, including scientific data and information from land holders, some of which represent and serve Alaska's most vulnerable and disadvantaged members of the public.

As ASCMCRA explicitly aims to "strike a balance between protection of the environment and other uses of the land," the October 24, 2011 Decision found it was completely reasonable to consider information from the land owners about how they might use their land, including development of their coal resources.[495] ASCMCRA also recognizes "a need for coal," and the knowledge that land owners have contemplated – and in this instance issued leases explicitly for – coal mining activities must be considered in the course of a lands unsuitable designation.

10. <u>"The decision erroneously relies on the financial interests of the intervenors and potential adverse financial impacts to the intervenors to reject the petition."</u>

As described in point 9 above, the October 24, 2011 Decision did not rely on the financial interests of the intervenors, but considered them, as appropriate under ASCMCRA, as part of the full administrative record. The intervenors were required by regulation to identify interests that would be adversely affected by a lands unsuitable

[492] October 24, 2011 Decision at ¶¶ 75-79.
[493] November 22, 2011 memo, Section H, p. 10, exhibits O, P, Q, and R, Resolutions from the villages/traditional councils of Tyonek, Nanwalek, Chickaloon, and Old Harbor respectively..
[494] AS 27.21.010(b)(2) (emphasis added).
[495] AS 27.21.010(b)(7).

designation,[496] and these interests were then summarized in the October 24, 2011 Decision.[497] The intervenor process allows for those with legally recognized interests, financial or otherwise, to participate in proceedings so that their interests can be accounted for.

11. **"**The record does not support the conclusion that an unsuitable lands designation for stream beds and the associated riparian area would render all mining in the area uneconomical."

The October 24, 2011 Decision concluded that a lands unsuitable designation for all of the anadromous streambeds and associated riparian areas within the petition area would significantly fragment the coal resource within the Chuitna watershed.[498] DNR staff conducted an extensive evaluation on this point and confirmed, in their professional opinion, that the impact of designating the area requested in the 2010 Petition as unsuitable for surface coal mining would be functionally equivalent to that of the 2007 Petition, and would probably render coal mining projects within the Chuitna watershed uneconomical.

In forming this opinion, DNR staff examined the geological geometry and operational footprint of existing coal mines in Alaska. These geometries were used as an analog to the possible scale of mining operations in the Chuitna watershed. This examination concluded that a prohibition of mining within the petition area would significantly fragment the coal resource and severely impact the economics of any coal development project.

The minimum size needed for an economical coal mining operation for a particular coal resource is dependent on several factors, including, but not limited to, the type of coal being mined, the depth to the coal, and the distance to its intended market. The price per ton for coal on the market is driven by its rank: highly ranked coals, such as anthracite, demand a much higher price per ton.[499] Coal deposits

[496] 11 AAC 90.705(e)(2).
[497] October 24, 2011 Decision at ¶¶ 75-79.
[498] October 24, 2011 Decision at ¶ 63.
[499] Anthracite coals from central and northern Appalachia sell for ~ $60-$70 per ton, Bituminous coals sell for ~$35to $40 per ton, and Sub-Bituminous coal from the Powder River

offering a lower price per ton, such as sub-bituminous coal, require larger operations and higher volumes of coal to be economic. The Chuitna watershed coal data shows similarities to coals currently being mined around Healy, Alaska, including similarities in coal quality and thicknesses. DNR staff focused its examination on three mining operations in that area: the Poker Flats, Two Bull Ridge, and Gold Run Pass mines. These mining operations consist of pure truck and shovel operations or a combination of dragline/truck and shovel operations, which are fairly compact techniques that are still able to produce economic volumes of coal. None of these mines' footprints were compatible with space available for a mining operation in the Chuitna watershed, assuming the petition was granted.

Of note, Healy's coal mining operations are located near established infrastructure and transportation corridors, such as the Parks Highway and the Alaska Railroad system. Without these transportation options, and the cost-reductions they provide, a coal operation in the Chuitna watershed would have to be larger than an otherwise identical mine in Healy. The cost of building the necessary infrastructure to transport coal from the mine site for a Chuitna project is likely to be substantial, and would have to be recovered from the mine's revenues. This is already a commercial barrier to coal mining in the Chuitna watershed, and would be exacerbated if the coal resource were fractured.

Beyond the scope of staff's review was the potential need to mine deeper coal seams, or to mine multiple seams simultaneously to make the project economic. Both of these cases would require an even larger footprint to accommodate excess spoil storage and additional haul ramps, and require mining operations larger than the example used in the analysis above. In addition to disturbing a larger absolute area, opening several small mining pits to avoid certain areas would dramatically increase the up-front capital investment needed for the project without providing any increased return over its life.

In light of this information, the October 24, 2011 Decision concluded that an unsuitability designation requested by the 2010 Petition would render coal mining

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Basin sells for ~ $10 per ton. *See* EIA market data, available at http://www.eia.gov/coal/news_markets/.

uneconomical in the broader Chuitna watershed, and be functionally equivalent to the designation sought in the 2007 Petition.

12. **"**The decision improperly relies on a conclusion that residents would benefit from coal strip mining in the watershed, ignoring the record evidence that local residents have been, and continue to be, unanimously in favor of the Petition."

ASCMCRA directs the Commissioner to ensure that the rights of surface land owners and other persons with an interest in the land are protected from *unregulated* surface coal mining operations.[500] This is why any mine that is proposed in Alaska must obtain numerous permits and demonstrate an ability to comply with all the applicable regulatory performance standards prior to operation. Violation of these permit conditions and regulations results in penalties to ensure the protection of land owners and land users interests, and can include shutting down a non-compliant mine.[501] In the course of processing permit applications, DNR is statutorily required to accept public comments expressing particular concerns about a project, and then to reasonably incorporate comments to craft permit conditions that head-off problems before they occur.[502]

DNR is required, by ASCMCRA and broader statutory and constitutional mandates, to make decisions that balance the management of state resources, the rights of land owners and local residents, and the interests of all Alaska citizens.[503] When differences in opinions arise regarding the use or management of land, DNR must rely on its institutional expertise and scientifically sound data to render decisions within the existing statutory framework.

13. **"**The decision erroneously concludes that because all issues regarding reclamation, water quality, wetlands, the hydrological balance and fish and wildlife habitat can be addressed during permitting of any proposed strip mine, further consideration

[500] AS 27.21.010(b)(2).
[501] 11 AAC 90.111 – 11 AAC 90.133.
[502] AS 27.21.130; 11 AAC 90.113, 115.
[503] *See generally* A.K. Const. art. VIII, § 1.

of unsuitability of the lands for surface coal mining based on these factors is not required."

The Commissioner's unsuitability designation analysis must be based on competent and scientifically sound data and information regarding reclamation. For a petition, the question is whether the data and information demonstrate that no operations plan could ever meet the regulatory reclamation standards that must be met prior to the issuance of a permit. The Commissioner cannot refuse consideration of information relevant to this mandatory process just because the information will also be considered during the permitting process. However, if the information presents concerns about the specifics of reclamation rather than demonstrating that reclamation is impossible, it is proper to address these concerns with specific permit conditions. Petitioners must assume that contemporary mining practices would be followed if an area was mined and their petitions should address broad questions of whether reclamation is possible rather than predict a project or company's capacity to submit a satisfactory permit application that complies with the regulatory performance standards.[504]

The petitioners presented evidence relating to water quality, wetlands, etc. – the kinds of evidence useful for examining the feasibility of reclamation as a general matter under the petition process, and for the tailoring of permit conditions to protect an area's particular values under the permit process. The October 24, 2011 Decision did not represent that consideration of this information is not required at all until the permitting phase of a project, nor that it was not the appropriate kind of information to examine in the course of the petition process. The October 24, 2011 Decision pointed out that many of the concerns raised by the petitioners as to whether a proposed project would be capable of reclamation would have to be fully considered on a site specific basis prior to the issuance of any permit,[505] whether or not they had been raised in the course of an unsuitability petition. However, the evidence that the petitioners provided was considered during the petition process and was not deferred as petitioners imply.

[504] *See* 11 AAC 90.701(a)(5); 48 Fed. Reg. at 41,328-29.
[505] October 24, 2011 Decision at ¶ 240.

Additionally, the petitioners implied that to satisfy the performance requirements, reclamation must precisely recreate the values of the pre-mining area. Under this proposed standard, it would be technologically challenging to achieve full reclamation of any mined area. The October 24, 2011 Decision found that this presumption about post-mining land use was not consistent with ASCMCRA regulations.[506] Taking the proper standard for post mining use into consideration, and presuming the use of modern mining practices, the October 24, 2011 Decision found that the evidence in the administrative record did not compel an unsuitability designation. The October 24, 2011 Decision and administrative record demonstrate that DNR did not defer comprehensive analysis of the 2010 Petition due to the fact that much of its evidence would be re-evaluated in potential permit proceedings in the future.

14. "The decision is not adequately supported by the administrative record, including the database and inventory system."

The administrative record is sizeable and includes information supplied by the petitioners, intervenors, the public, historical records, and DNR itself. As required by statute, this includes the material in the State's database and inventory system, which was reviewed in the course of reviewing the 2010 Petition. Of note, prior DNR decisions that were upheld by the Alaska Supreme Court, prior federal permitting decisions, prior DNR Commissioners' analyses, and information regarding existing successful reclamation projects are a part of this record and support the October 24, 2011 Decision.

15. **"**The decision fails to adequately consider the scientific review and supporting information provided by Margaret Palmer, Lance Trasky, Mark Wipfli, Tom Myers and Kendra Zamzow."

The October 24, 2011 Decision is based on the full administrative record, taking into consideration all of the exhibits and comments submitted in the course of

[506] October 24, 2011 Decision at ¶¶ 104 – 117.

the 2010 Petition process, including the papers by Dr. Margaret Palmer, Mr. Lance Trasky, Dr. Mark Wipfli, Dr. Tom Myers and Dr. Kendra Zamzow.

Three of these papers were submitted as exhibits to the 2010 Petition and were discussed in the October 24, 2011 Decision (the Palmer, Trasky, and Wipfli papers),[507] and two were submitted as comments to DNR as part of the 2010 Petition process (the Myers and Zamzow papers).

The October 24, 2011 Decision noted that ADF&G also examined these materials and agreed with the petitioners that the draft project and baseline documents developed by PacRim (upon which these reports were partially based) did not contain adequate information to fully address concerns about reclamation. Notably, ADF&G's conclusion regarding these papers was substantially the same as our own: that the papers are not dispositive on the question of the feasibility of reclamation as a general matter, and the concerns they raise are more appropriately addressed on a project-specific basis.[508]

The October 24, 2011 Decision did not disregard these papers nor refuse to undertake an analysis of the information they provided, as required by ASCMCRA.[509] However, the October 24, 2011 Decision noted that the PacRim documents these papers were based on represented preliminary information[510] and concluded that the papers' inherently project-specific scope was not a sufficient showing that reclamation was not technologically feasible in the petition area.

Nevertheless, these papers were reanalyzed during this reconsideration period. A detailed analysis of each of these papers is provided here.

The Palmer Paper

The "Palmer Paper," authored by Dr. Margaret Palmer, a Professor of Entomology at the University of Maryland and Director of the National Socio-

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[507] October 24, 2011 Decision at ¶¶ 141 – 146.
[508] *Id* at ¶ 145.
[509] *See* Section II.A.13 *supra*, Section II.A.24 *infra.*
[510] October 24, 2011 Decision at ¶ 141. These changes were made at the request of regulatory agencies – *See, e.g.,* Memo from Scott Maclean, DNR/Office of Habitat Management and Permitting, to Tom Crafford, DNR/Division of Mining, Land and Water, titled *Chuitna Coal Project Freshwater Aquatic Biology Baseline Studies* and dated June 26, 2007; letter from Hannah Shaw, EPA, to Bob Stiles, DRven Corporation, titled *Chuitna Coal Project Freshwater Aquatic Biology* and dated June 26, 2007.

Environmental Synthesis Center, examined the potential impacts to streams, adjacent riparian areas, and wetlands that could be caused by PacRim's proposed Chuitna Coal Project in 2009, using the draft project plan and baseline documents available at that time. The Palmer Paper concluded that the area impacted by the proposed Chuitna Coal Project could not be returned to its pre-mining conditions and productivity.

While some of the issues raised in this paper concern the feasibility of reclamation, the 2010 Petition also cites the paper to argue that aquatic productivity cannot be reclaimed to pre-mining levels. As noted in the October 24, 2011 Decision, allegations about aquatic productivity, as well as recharge capacity, are appropriately evaluated under the discretionary standard for the purpose of making unsuitability designations.[511]

Palmer's paper questioned the use of Rosgen classification and design, and claimed that its use for the Chuitna watershed was problematic.[512] Dr. Rosgen's work on stream restoration methodologies was mentioned in the October 24, 2011 Decision's discussion of how mine reclamation techniques have improved since DNR's permitting approval for the Diamond Shamrock Chuitna Coal Project within the Chuitna watershed in the late 1980s.[513] Under Dr. Rosgen's approaches, restoration for mine sites takes into account the changes in lithologies caused by mining, and incorporates this understanding into mine plans. Designs for reclaimed streams can then consider what stream types are stable under the post-mining hydrologic and sediment regimes, realizing that stable stream types may not be the same as what they were pre-mining. In other cases, the same stream type might be stable but its dimension, pattern, or profile would need alteration to account for the appropriate post-mining sediment regime. Thus, the modern trend for stream restoration is a broad, integrated approach that is dynamic rather than static. Reclamation begins with the collection of baseline site specific data and state and federal agency reviews, continues through project design and implementation, and then includes monitoring and, when necessary, maintenance and redesign in the course of the mining operation

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[511] AS 27.21.260(c)(2)(C); *See* Findings and Decision at ¶ 159, fn. 328.
[512] *See, e.g.,* Rosgen, *Natural Channel Design: Fundamental concepts, Assumptions and Methods, in Dynamic Fluvial Systems: Scientific Approaches, Analyses and Tools*, American Geophysical Union Geophysical Monograph 194 (2011), p. 69-93.
[513] October 24, 2011 Decision at ¶¶ 182 - 183. There is a further discussion of Dr. Rosgen's work at Section II.A.35 *infra.*

and the post-mining phase.[514] This kind of integrated reclamation practice is now required by SMCRA and ASCMCRA, and consistent with Dr. Rosgen's techniques.

The Trasky Paper

The "Trasky Paper" and its executive summary, authored by Mr. Lance Trasky, an environmental consultant and former ADF&G biologist, also reviewed PacRim's proposed Chuitna Coal project in 2009, using the draft project plan and baseline documents available at that time.

The "Trasky Paper" examined the fisheries studies conducted through the winter of 2009, the baseline studies of surface and groundwater within the proposed project area, and the draft 2007 Fish and Wildlife Protection plan. This review resulted in two central concerns: one, that not enough information had been collected for the proposed project to understand impacts to local fish populations and to understand the surface and groundwater hydrology as it relates to spawning and rearing habitat, especially overwintering habitat; and two, that genetic diversity and a full portfolio of marine derived nutrients are very important to aquatic productivity, but would not have been sufficiently provided by the plans the paper analyzed. The paper also raised concerns that the use of Rosgen stream classification was inadequate to restore the stream to pre-mining productivity. The executive summary contained an appendix of recommended additional studies that PacRim needed to conduct in order to address the paper's concerns and fully understand potential impacts from a Chuitna coal mining project.

The 2010 Petition used this paper to support the argument that mine reclamation would not restore aquatic productivity to pre-mining levels,[515] which is evaluated under ASCMCRA's discretionary standard.[516] As discussed above, the informational concerns discussed in the paper were shared by DNR and federal agencies, and these agencies instructed PacRim to collect additional baseline data as a result.[517]

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[514] *See, e.g.,* Brooks and Shields, *Towards an Approach to Sustainable River Restoration,* River Channel Restoration: Guiding Principles for Sustainable Projects (1996), p. 433.
[515] 2010 petition at p. 29.
[516] AS 27.21.260(c)(2)(C).
[517] October 24, 2011 Decision at ¶ 141.

Furthermore, the October 24, 2011 Decision found that there were successful examples of replacement of marine derived nutrients during reclamation using nutrient addition from other organic sources that might be applicable to this proposed project area, and was thus not persuaded to grant the petition on that point.[518]

The Wipfli Paper

The "Wipfli Paper," authored by Dr. Mark Wipfli, an Associate Professor of Aquatic Ecology and Fisheries for the USGS Alaska Cooperative Fish and Wildlife Research Unit at the University of Alaska Fairbanks, was also a review of the baseline monitoring and restoration plan submitted by PacRim for their Chuitna coal project in 2009. The paper concludes that the data collected for the current project does not capture: the complex three-dimensional structure of streams and riparian areas that affects the ground water regime; the impacts mining and backfilling of mined areas will have on surface flow changes due to compaction and settling over time; or the nature of the current food webs in the proposed project area. Additionally, the "Wipfli Paper" asserts that the streams and riparian areas under review have changed since the coal mining projects in the 1980s were evaluated, and that the data collected for past projects is not relevant to the currently proposed Chuitna Coal Project.

The "Wipfli Paper" recommends that additional aquatic, biologic and fishery studies be conducted prior to moving forward with the permitting process. The 2010 Petition uses this paper to support the argument that mining in the watershed will permanently damage the mining area's hydrologic balance – premised on the assumption that the post-mining balance must be substantially, if not completely, the same as the pre-mining balance.[519] This is not the proper standard for post-mining land use, and does not recognize that ASCMCRA accepts that there will be impacts due to coal mining. Regulation must mitigate these impacts, but it is not required to eliminate them.[520] Additionally, these allegations must be properly evaluated under ASCMCRA's discretionary standard.[521]

[518] *Id.* at ¶ 144.
[519] 2010 petition at p. 21.
[520] AS 27.21.010(b).
[521] AS 27.21.260(c)(2)(C).

The Myers Paper

On January 19, 2011, Trustees submitted a paper to DNR by Dr. Tom Myers, a hydrologic consultant in Nevada, which discussed the potential impacts a coal mining project could have on the groundwater system in the Chuitna watershed. This paper reviewed the surface and groundwater hydrology of streams 2002, 2003, and 2004, and discussed potential impacts to stream base flow that might occur due to coal mining. This paper was also submitted as an attachment to Exhibit J to the November 22, 2011 memo.

This paper reviews the available preliminary baseline groundwater and surface water data that was also the subject of the three papers discussed above. Like the "Wipfli Paper," the "Myers Paper" concluded that the complexities of the current watershed could not be recreated after mining, particularly the stream base flow. However, the proper post-mining land use standards must be utilized when analyzing the technological feasibility of reclamation, as well as the fact that ASCMCRA accepts that coal mining has impacts on environmental values. This is why the reclamation standard for ASCMCRA is pre-mining *land use* rather than the exact pre-mining *land condition*.

The paper includes a list of actions for the restoration of base flow that should be required for any coal mining operation. However, many of these actions are already recognized in ASMCRA regulations as necessary for satisfactory reclamation. For instance, any operation must already salvage and protect all disturbed topsoil, including wetland soils, for later use. This topsoil must be replaced in accordance with the reclamation plan and approved post-mining land uses. If wetlands are part of the approved post-mining land use, then the salvaged wetland soils would be used in constructing these wetlands.[522] Additionally, all disturbed areas must be returned to their approximate original contour after mining.[523] The development and use of GPS controlled reclamation operations has enhanced long-term reclamation success with these methods, and allows large-scale mining operations to efficiently and economically apply these methods to complex topographies.[524]

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[522] 11 AAC 90.311 – 315.
[523] 11 AAC 90.443.
[524] *See, e.g.*, Carlson Mining's Natural Regrade Module, OSM summary available at http://www.tips.osmre.gov/Software/cad/datasheets/Carlson_Natural_Regrade_2011.pdf;

The "Myers Paper" also highlights potential impacts to the groundwater system. These impacts can also be mitigated through the selective handling and placement of overburden and interburden material, in a way that augments recharge rates. Special handling of spoil material allows for distinctive hydrologic properties of particular materials to be restored by placing them in a location close to their pre-mining position. In addition to separately handling topsoil, operations can be required to separately handle and place spoil material to mitigate possible acid mine drainage.[525]

The Zamzow Papers

As a public comment on the petition, Dr. Kendra Zamzow, an environmental geochemist, submitted two papers on behalf of the Center for Science and Public Participation (CSP2):

1. January 18, 2011: This paper argues that water discharges from coal mining operations in the watershed, specifically discharges from the Chuitna Coal Project, would not meet Alaska's Water Quality standards – even after reclamation. This paper's conclusions were based on preliminary information for the proposed Chuitna Coal Project rather than on water quality generally and did not demonstrate that reclamation in the Chuitna watershed was not technologically feasible. DNR and other regulatory agencies shared the paper's concern that the data this paper w as based on was not sufficient to address water quality concerns. However, these concerns did not go beyond a project-specific basis, would have to be viewed in light of the supporting data and documentation that was not available at the time, and were described by the Alaska Department of Environmental Conservation as "premature" in 2011.[526]
2. February 18, 2011: This paper was submitted in response to the stream reclamation examples that were provided by PacRim Coal in project materials that were provided to DNR, [527] and contains CSP2's review of these examples. The paper concludes that these examples were not analogous to the Chuitna watershed, and therefore did not support the possibility of reclamation in the petition area. This paper was discussed in DNR's

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Noland, *Responsible Mining and 3D Machine Control*, Machine Control Magazine Vol.2 No.3 (2012) (discussing GPS controlled reclamation technology).

[525] National Research Council Report: *Surface Coal Mining Effects on Ground Water Recharge,* National Academy Press (1990), p. 79.

[526] October 24, 2011 Decision at ¶169, n. 346.

[527] Letter from Joe Lucas, PacRim, to DNR Commissioner Daniel Sullivan titled *Re: Petition to Designate the Streambeds of Anadromous Water Bodies and Riparian Areas within the Chuit River Watershed, Alaska, as Unsuitable for Surface Coal Mining Pursuant to AS 27.21.260* and dated January 19, 2011, including: Exhibit 1 – Watershed Restoration Program Technical Circular, Exhibit 2 – Practical Examples of Fish and Wildlife Habitat Construction, Reclamation and Restoration, and Exhibit 3 – Illinois Stream Restoration Restoring Functions.

response to comments as part of the 2010 Petition process.[528] Even if not analogous to the particulars of the Chuitna watershed, the methodologies and tools used in the stream reclamation examples highlight the contemporary best practices for stream restoration, and this kind of information was considered relevant for the preparation of the October 24, 2011 Decision.

The papers described above highlight concerns with the preliminary information submitted for the Chuitna Coal Project. As discussed, the regulatory agencies themselves shared some of these concerns, and required PacRim to collect more data to address them. This is an example of the site-specific evaluation process working properly, where proposals that do not meet the performance standards, or do not include enough information to evaluate whether they meet the performance standards, are not approved until shortcomings are resolved. However, shortcomings in a plan do not equate to a situation where reclamation is not technologically feasible in the relevant area.

When conducting a reclamation analysis, it must be assumed that the performance standards, to the greatest degree possible with the use of contemporary mining practices, are being followed.[529] This includes dynamic evaluations of reclamation activities, so that data collection continues beyond the permitting stage, into the operations and the post-mining reclamation periods. Dr. Palmer acknowledged the dynamic capacity that modern information gathering techniques and monitoring provide, stating in a previous paper that "even projects that may appear to be failures initially can be turned into success stories by applying the knowledge gained from monitoring the project in an adaptive restoration approach."[530] For this reason, the insufficiency of preliminary information to demonstrate whether reclamation will be successful, which is a central concern of these papers, does not mean that reclamation is not technologically feasible within the petition area.

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[528] DNR document titled *Response to Comments submitted in response to Trustees for Alaska Petition Requesting that the Streambeds of Anadromous Waterbodies and Associated Riparian Areas in the Chuitna River Watershed be Designated as Lands Unsuitable for All Types of Surface Coal Mining Operations* and dated October 11, 2011.

[529] 11 AAC 90.701(a)(5).

[530] Palmer, Allan, Meyer and Bernhardt: *River Restoration in the Twenty-First Century: Data and Experiential Knowledge to Inform Future Efforts,* Restoring Ecology (2007) at p. 472.

16. "The decision erroneously rejects all applicability of three of reports listed in #15 above, Palmer, Trasky and Wipfli, because they are partially based on project information from PacRim."

The October 24, 2011 Decision stated that the papers by Palmer, Trasky and Wipfli, commissioned in support of the 2010, were of limited applicability to PacRim's proposed project because the information they analyzed was necessarily evolving. Thus the papers were also of limited applicability to broader questions on the technological feasibility of reclamation. As discussed above, the appropriate regulatory agencies also found that the project information from PacRim was incomplete, but, as there was no indication that the information could never be satisfactory, these issues would be appropriately addressed during the permitting process.[531]

17. "The decision erroneously rejects the reclamation information submitted as unsupported by competent and scientifically sound data."

In their November 22, 2011 memo, the petitioners claim that "[i]nstead of reliable scientific information, the Decision simply relies on regulatory language that requires an operator to minimize disturbance. 11 AAC 90.321"[532] The petitioners further claim that the October 24, 2011 Decision should not have dismissed the papers based on a "cursory conclusion" from the ADF&G.[533]

DNR did not defer any portion of the petition process to ADF&G. Consultation with an agency responsible for portions of the permitting and monitoring process is certainly warranted to inform DNR's analysis of all applicable information, and is not in any way restricted by ASCMCRA.

In the course of a lands unsuitable petition under ASCMCRA, both DNR and the petitioners are required to assume that contemporary mining practices will be followed. Therefore, the petition analysis must assume that DNR would make the use of these practices a condition of a future permit, and not issue a permit unless it was

[531] Section II.A.15 *supra*.
[532] November 22nd memo, Section K at p. 13.
[533] *Id*. at p. 14.

demonstrated that contemporary practices would allow for reclamation when applied in the particular circumstances of a proposed project in the petition area.

Granting a petition is only compelled where the circumstances indicate that even if contemporary mining practices are followed, reclamation is not technologically feasible. While the papers cited by the petitioners raise some valid concerns, the applicability of the papers – and therefore the allegations – are diminished because they are premised on a preliminary set of baseline data that the appropriate regulatory agencies also found incomplete. While the reports do, at times, extrapolate their conclusions to the circumstances of the petition area generally, they presume that the specific pre-mining conditions must be precisely restored. As detailed by ASCMCRA regulations, pre-mining land use, not precise pre-mining land condition, is the proper standard of measurement for the success of reclamation.

On the issue of most effectively restoring an area to its pre-mining land use rather than pre-mining condition, it is useful to examine the restoration of the Kissimmee Riverine-Floodplain ecosystem in southern Florida. In a paper summarizing the reclamation process that was carried out in that area, it was observed that:

> "All restoration options evaluated will require some regular maintenance; it proved wise to avoid biological criteria in terms of fish or waterfowl to be restored… management for these particular species-oriented values would not have permitted natural, successional, and evolutionary ecosystem processes to operate. No criteria specifying individual species requirements, whether alone or in combination, will reestablish the complex food webs, habitat heterogeneity, and physical, chemical and biological processes and interactions that determine the biological attributes of the former system.[534]

While the October 24, 2011 Decision did not find that the full administrative record supported a finding that reclamation was not technologically feasible in the petition area, the decision did not find that the data underlying the papers submitted by the petitioners was necessarily unsound, or that the conclusions of these papers were not at all grounded in this data. The October 24, 2011 Decision found that the data provided by the petitioners pertained to issues that could be addressed in the permitting process, and would be addressed by a project that adhered to contemporary mining practices. Additionally, much of this data was preliminary, and

[534] Berger, J.J., *The Kissimmee riverine-floodplain System*, Restoration of aquatic ecosystems: Science, technology, and public policy, National Research Council (1992), pp. 477-496.

the gaps identified by the petitioners were also identified by the relevant regulatory agencies who had requested that the missing information be gathered. Due to the prior findings that reclamation was feasible in the petition area, the successful examples of reclamation that were reviewed, and the robustness of contemporary mining practices, the October 24, 2011 Decision concluded that the reclamation information in the record did not compel granting the 2010 Petition.

18. **"**The decision erroneously relies on project and baseline information for PacRim's project that is not part of the administrative record."

The October 24, 2011 Decision stated that "draft project and baseline documents have changed considerably in response to comments and concerns raised by state and federal agencies" to highlight that the preliminary data and its limitations, which concerned the petitioners, was also a concern for the relevant regulatory agencies.[535] The October 24, 2011 Decision was not based on confidential project or baseline documents that are not in the administrative record.[536] The administrative record contains all of the information from PacRim's Chuitna Coal Project that was the subject of the papers supplied in support of the petition, and the communications from regulatory agencies informing PacRim that this information was incomplete and would have to be supplemented or modified. The October 24, 2011 Decision was based exclusively on these documents and the other material in the administrative record, not on any confidential, non-public materials.

19. **"**The decision erroneously concludes that reclamation is feasible based on placer mining reclamation projects, and other reclamation projects that are not similar to the scale and depth of coal strip mining that is foreseeable in the Chuitna watershed."

In the course of evaluating the 2010 Petition, DNR did not limit its survey of reclamation technology to a single type or scale of development. The October 24, 2011 Decision considered a number of other mining projects, including coal and placer

[535] October 24, 2011 Decision at ¶ 141.
[536] See November 22nd memo, Section F, at p. 8-9 (alleging that the Findings and Decision may not consider non-public information that is not part of the administrative record).

mining operations.[537] OSM has recognized that reclamation is an extremely complex subject matter, stating "[t]he reality of the situation is…that there are too many variables to be taken into account [in the review of a petition] and only occasionally will the presence of certain conditions, by themselves, be sufficient information on which to base a designation decision."[538] In light of this reality, as much information as possible from prior examples of reclamation was reviewed.

Two projects cited in the October 24, 2011 Decision—Valdez Creek, the site of a large placer mine south of the Alaska Range, [539] and Consol Energy Burning Star 4, the site of a large surface coal mine in Illinois[540]—were especially probative on the issue of reclamation feasibility for both large scale mining operations and mining through shallow groundwater aquifers. In both examples, streams were successfully reclaimed over a backfilled pit, and aquatic species returned after mining.

In the November 22, 2011 memo, the petitioners critique these examples as failing to "demonstrate what the Decision must necessarily determine – the technological feasibility of restoration on the Petition lands." The petitioners support this claim with analysis prepared by Dr. Palmer and Mr. Trasky in response to the October 24, 2011 Decision,[541] as well as with references to prior comments submitted by Trustees and Dr. Zamzow.[542] These comments all strive to distinguish the reclamation examples in the October 24, 2011 Decision from the specific attributes of the petition area.

However, the petitioner's are not using the proper standard in two respects: First, unsuitability petitions evaluate reclamation rather than "restoration," and second, the Commissioner does not have to determine the technological feasibility of any activity, but rather determine that reclamation is not technologically feasible.

The petitioners are correct that exact analogues to the streams within the Chuitna watershed were not found, but that does not mean that examples of reclamation in other streams and mining areas are not illustrative of successful reclamation methodologies and technologies that could be applicable to this area. The

[537] *Id.* at ¶¶ 138, 173 – 187.
[538] 44 Fed. Reg. 14998-99 (March 13, 1979).
[539] October 24, 2011 Decision at ¶ 174.
[540] *Id.* at ¶ 180.
[541] November 22nd memo, Exhibits I, J, and L.
[542] November 22nd memo, Exhibits S, T.

examples cited in the October 24, 2011 Decision show that stream and wetlands reclamation projects have been successful, including in Alaska salmon streams. The fact that these past successful projects are smaller in scale than proposed future projects in the Chuitna watershed does not demonstrate that reclamation is not technologically feasible.

The petitioners use a 2007 letter from the National Marine Fisheries Service (NMFS) to EPA to support their critique of reclamation examples, which discussed complications and impediments for stream restoration efforts on the scale of PacRim's proposed project.[543] This letter expresses concerns about "restoring tributary 2003 to natural ecosystem function… and re-establish[ing] wild salmon populations," but also acknowledges that "methods of hydrologic modeling have improved considerably in recent years."[544] Concerns about aquifer recharge and fish-productivity can be addressed during the permitting phase for any future proposed project. As reviewed during this decision on reconsideration, the evidence provided by the petitioners did not support granting an unsuitability designation.

20. **"**The decision erroneously rejected the possibility of finding any kind of surface coal mining unsuitable in the petition area."

There is no statutory requirement to make a preliminary or partial finding for a lands unsuitable petition and the October 24, 2011 Decision did not include findings regarding particular kinds of mining as a result of the 2010 Petition. Petitions are compelled to be granted when there is evidence demonstrating that reclamation in the petition area is not technologically feasible.[545] The October 24, 2011 Decision undertook a thorough review of the 2010 Petition and the full administrative record to evaluate the feasibility of reclamation from any kind of mining activity in the petition area.

As stated in the October 24, 2011 Decision, the petitioners raise reasonable concerns regarding whether water quality, wetlands, hydrologic balance, fish and wildlife habitat, and other resource values can be adequately protected if surface coal

[543] November 22nd memo, Exhibit U; letter from James Balsinger, NMFS to EPA titled *re: PacRim Project* and dated October 29th, 2007.
[544] Id. at 2
[545] AS 27.21.260(c)(1).

mining was to occur within the petition area. These kinds of concerns are all considered during the ASCMCRA unsuitability process, and anytime these values are present there is a possibility that an unsuitability designation may be warranted. However, these values are also considered during the permitting process, where they can be protected without completely restricting the beneficial aspects of coal mining. Thus, it is only in unique circumstances that unsuitability designations are warranted.

The October 24, 2011 Decision found that there was insufficient evidence to demonstrate that reclamation was not technologically feasible in the petition area for surface coal mining. The October 24, 2011 Decision was not, however, a preliminary approval or endorsement of any particular kind of coal mining or coal mining project. In fact, the October 24, 2011 Decision stated that the petitioners' justifiable concerns can be "appropriately addressed in the application of regulatory requirements, including the performance standards that are incorporated in ASCMCRA mine permits, if a proposed mine is ultimately approved anywhere within the Chuitna watershed."[546]

21. "The decision erroneously relied on Article VIII of the Alaska Constitution as a justification for denying the Petition."

The petitioners assert that the October 24, 2011 Decision "improperly relies on DNR's general duties and the balancing of resource development with conservation found in Article VIII of Alaska's Constitution" and that "[n]othing in Article VIII or DNR's general statutory duties change the requirement to apply the proper legal standards to the issues raised in the Petition."[547] As discussed throughout this decision on reconsideration, the October 24, 2011 Decision rests on a thorough review of the full administrative record, and was conducted according to the statutory process laid out by ASCMCRA. The October 24, 2011 Decision did not make any assertion that Alaska Constitutional provisions ran counter to ASCMCRA, abrogated any duty committed to the Commissioner by statute, or called into question existing DNR regulations regarding coal mining or reclamation standards.

[546] October 24, 2011 Decision at ¶ 240.
[547] November 22nd memo, Section I, at p. 11.

With regard to balancing resource development and the conservation of natural resources, the October 24, 2011 Decision found that the purposes of ASCMCRA were consistent with DNR's constitutional mandate to promote "utilization, development, and conservation of all natural resources,"[548] particularly ASCMCRA's requirement "to strike a balance between protection of the environment and other uses of the land and the need for coal as an essential source of energy."[549]

With regard to any conflict between DNR's general legal duties, ASCMCRA specifically provides that "[n]othing in this chapter abrogates or modifies the power of a state agency to enforce laws and regulations within its jurisdiction, except as specifically stated in this chapter and regulations adopted under it." [550]

22. "The decision fails to undertake an independent, objective review of reclamation feasibility in the petition area."

As discussed throughout this decision on reconsideration, the October 24, 2011 Decision and administrative record reflect a detailed and objective review of the technological feasibility of reclamation within the petition area. ASCMCRA vests these responsibilities with DNR because of its constitutional role as the land and natural resource manager for Alaska, and its institutional expertise in examining natural resource conservation and development issues.

The review was not conducted by DNR in a purely independent fashion. The Department's review included the petitioners' and intervenors' submissions, public comment, prior outside reports contained in the agency's database concerning the Chuitna River watershed, external summaries of reclamation projects, and other applicable scientifically sound data and information created outside of DNR, as required by statute.

23. **"**The decision improperly assumes that a post-mining land use determination for a specific project must be made before DNR can determine whether reclamation is technologically feasible."

[548] A.K. Const. art. VIII, § 2.
[549] AS 27.21.010(b)(7).
[550] AS 27.21.970.

The petitioners are correct that a post-mining land use determination does not have to be finalized prior to analyzing the technological feasibility of reclamation. A petition can be granted for an area without a mine project proposal, but post-mining land use determinations are only finalized when a proposed project is permitted. However, that does not mean that the post-mining land use issue is to be ignored during the petition process. In fact, the post-mining land use determination is critical because it determines the type of reclamation that is being analyzed for its technological feasibility. When a petition process is conducted on an area without a project and thus an expressed post-mining land use determination, it must take into account all of the options for post-mining land use outlined in regulation, including potential higher and better uses that may be sought by the landowner and approved by the Commissioner.[551]

24. "The decision erroneously concludes that premining land use is not the proper standard for determination of the feasibility of reclamation for this petition area."

The October 24, 2011 Decision states that pre-mining land use is not the only standard for reclamation; higher and better use, as consistent with regulation and the land owners' and land managers' plans for the land, is also an acceptable result.[552] ASCMCRA does not require, as the petitioners assert, that pre-mining land status alone controls the question of whether reclamation is not technologically feasible. The October 24, 2011 Decision does not render the petition process a "nullity" by recognizing this fact.[553] It does, however, undermine the petitioners' claim that "[t]here is no higher or better use of these remote anadromous water bodies and riparian areas than its pre-mining use as high-quality fish and wildlife habitat," [554] because the land owners and managers have the ability to seek alternative post-mining land uses that are consistent with regulation.

[551] 11 AAC 90.481.
[552] October 24, 2011 Decision at ¶¶ 104-117.
[553] *See* November 22nd memo, Section L at p. 16.
[554] 2010 petition at p. 15.

Realistically, much of the petition area could revert to fish and wildlife habitat post-mining, as described in applicable DNR area plans.[555] However, the performance standards under ASCMCRA do not require recreating an identical version of the area's pre-mining structure. As was pointed out in the October 24, 2011 Decision, "embedded in SMCRA and ASCMCRA is the recognition that coal mining will significantly impact an area," yet both "state and federal law authorize surface coal mining despite its effects on the environment."[556] Upon review of the full record, including information about current mining practices and successful reclamation projects, the record's evidence remains insufficient to demonstrate that reclamation in the petition area is not technologically feasible, even if the post-mining land use included aquatic habitat similar, if not identical, to that which exists today.

25. **"**The decision concedes standing while also erroneously implying that Petitioners do not have standing for the entire petition area. Petitioners request reconsideration of this standing determination to the extent DNR meant to preserve some kind of challenge to petitions standing. Petitioners have standing under Alaska law to request designation of all the lands in the petition area."

The law governing the petition process requires a petitioner to establish "standing" to bring a petition, and provides that "[a] person or municipality *having an interest that is or may be adversely affected*" by surface coal mining may petition the Commissioner "to designate an area as unsuitable for mining."[557] The regulation implementing this law requires "an identification of each of the petitioner's interests that is or may be adversely affected by surface coal mining operations, a description of the injury to each of the petitioner's specific affected interests, and a demonstration of how the petitioner is among persons whose interests are or may be injured."[558] The mere filing of a petition, accompanied by simple statements that the petitioner has an "interest" in the petition or the petition area, are insufficient to establish the requisite standing to file a petition.

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[555] State area planning documents, which ASCMCRA requires the Commissioner to consider, include coal mining as a primary use for these lands. *See* DNR 2000 Kenai Area Plan at p. 3-307.
[556] October 24, 2011 Decision at ¶ 105.
[557] AS 27.21.260(b) (emphasis added).
[558] 11 AAC 90.701(a)(3).

As held in the October 24, 2011 Decision, Chuitna Citizens Coalition (CCC) provided information to support that at least three of its members – Judy Heilman, Larry Heilman, and Terry Jorgenson – have interests that could be adversely affected from surface coal mining, and, by virtue of its members' interests, CCC had standing to seek a lands unsuitable designation and a review on the merits.[559] However, as the October 24, 2011 Decision noted, "[i]t is not clear that these members' interests would be affected by mining activities that might occur throughout the petition area."[560] Former Commissioner Tom Irwin expressed these same concerns, urging petitioners to provide "evidence that supports the scope of the lands requested for designation bears some reasonable correlation to the asserted allegations [and] petitioners' interests,"[561] and it was recognized that those concerns remained pertinent in the October 24, 2011 Decision.[562] The 2010 Petition was even less detailed about Cook Inlet Keeper's standing to seek an unsuitability designation for the petition area.[563]

In the November 22, 2011 memo, the petitioners supplied new information concerning the interests of CCC members Judy and Larry Heilman and Terry Jorgensen in the petition area. For example, the Heilmans "have hunted and fished the entire watershed, including Lone Creek. They have four-wheeled through the entire area, as well, including up to Stream 2003. They pick berries throughout the watershed."[564] Regarding Jorgensen, the November 22, 2011 memo states that he "has fished the Chuitna River for food and sport since 1974," and that he "hunts moose in the Lone Creek/Middle Creek area in September, and in November when a late season has been authorized. He also bird hunts in the watershed."[565] This decision on reconsideration finds that this newly alleged information is sufficient to establish these members' interests, and therefore CCC's standing, with respect to the overall petition area, not just limited portions of it.

Likewise, the petitions supplied new information in their November 22, 2011 memo concerning the interests of Cook Inlet Keeper regarding its standing to bring the petition. Two of its members, Rob and Bobbi Burnett, "have hunted and fished,

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559 October 24, 2011 Decision at ¶ 69.
560 *Id.* at ¶ 70.
561 *Id.*
562 *Id.* at ¶¶ 70-71.
563 *Id.* at ¶¶ 72-75.
564 November 22nd memo, Section C, at p. 4.
565 *Id.*

trapped and recreated throughout the Chuitna watershed for decades."[566] This decision on reconsideration finds that this newly alleged information is sufficient to give Cook Inlet Keeper standing with respect to the overall petition area.

26. **"**The decision erroneously substitutes DNR's authority to deny future permits for the analysis required of the technological feasibility of reclamation."

The October 24, 2011 Decision did not defer or delay decision making on the 2010 Petition until a future permitting process, or claim that permitting under the regulatory process directed by ASCMCRA could substitute for the petition process also laid out by ASCMCRA.[567] The October 24, 2011 Decision and administrative record demonstrate that a thorough review of the 2010 Petition was conducted using DNR's institutional expertise and technical competence. It was reasonable for the October 24, 2011 Decision to point out that many of the concerns raised by the petitioners as to whether a specifically proposed project would be capable of reclamation would be independently considered on a site specific basis were permit applications for the area to be submitted.[568]

27. "The decision erroneously relies on legislative history about "adverse impacts" to reject the petition. The inevitability of adverse impacts is relevant to the determination of whether lands are unsuitable for surface coal mining."

The October 24, 2011 Decision reviewed the legislative history associated with ASCMCRA, as is commonly done in order to determine legislative intent behind applicable law.[569] This review clearly shows that both Congress and the Alaska Legislature, in enacting SMCRA and ASCMRA, understood that there would be impacts caused by mining and that areas affected by mining may be impacted to some degree even after mining is completed. ASCMRA regulations also make it clear that operation and reclamation plans should be designed to minimize adverse impacts, but

[566] *Id.* at p. 5.
[567] Section II.A.13, *infra.*
[568] *See, e.g.,* Findings and Decision at ¶ 240.
[569] October 24, 2011 Decision at p. 9.

cannot prevent them entirely.[570] For instance, the loss of wetlands and aquatic habitat within a mine area is expected, and, after mining, these features may not be the same as they were pre-mining. The regulations for restoring a stream after mining include qualifying language to reflect this reality:

> [T]he operator shall (1) restore, enhance *where practical*, or maintain natural riparian vegetation on the banks of the stream; (2) establish or restore the stream to its natural meandering ratio at an [sic] environmentally *acceptable* gradients and velocities *determined by the Commissioner*; and (3) establish or restore the stream to a longitudinal profile and cross section, including aquatic habitats that *approximate* refining stream channel characteristics and which *may*, using the best technology currently available, *be expected* to restore aquatic productivity to pre-mining levels.[571]

The petitioners imply that the "inevitability of adverse impacts" can only support the conclusion that reclamation in the petition area – to the precise pre-mining condition – is not technologically feasible. However, ASCMCRA's legislative history shows that coal mining always entails some adverse impacts. This is why ASCMCRA's implementing regulations aim to mitigate rather than prohibit impacts, and establish performance standards that mandate the use of contemporary mining practices to minimize, avoid, or reclaim impacts. Concluding that reclamation in the petition area is not technologically feasible because mining will have adverse impacts to environmental values would circumvent this regulatory system. ASCMCRA clearly states that determinations of whether reclamation in a petition area is not technologically feasible are to be made "in accordance with this chapter and regulations adopted under it."[572]

28. <u>"The decision fails to consider whether achieving performance standards is feasible."</u>

The petition process requires an analysis of the competent and scientifically sound data and information regarding the petition area to determine if reclamation is not technologically feasible. If reclamation is not technologically feasible, then the petition must be granted. Achieving performance standards is a necessary part of being technologically feasible, but the petition process does not require the

[570] *See generally* 11 AAC 90.301 – 90.501
[571] 11 AAC 90.327(d) (emphasis added).
[572] AS 27.21.260(c)(1).

Commissioner to speculatively outline all of the situations and possible projects that could possibly achieve the performance standards.

The administrative record contains competent and scientifically sound data and information that supports the possibility of reclamation in the petition area. Most relevant to the 2010 Petition, this evidence *does not* demonstrate that reclamation is not technologically feasible. A positive demonstration that performance standards can be met in specific situations will be made, if necessary, in the future. Any proposed project will have to demonstrate compliance with ASCMCRA regulations and performance standards to DNR before it is approved and permitted.

29. "The decision erroneously relies on unsupported statements by PacRim to conclude that reclamation can be achieved in the petition area."

The administrative record includes information from federal and state agencies, scientific experts, and previous mining projects, as well as information generated by PacRim. While the petitioners have not specified what statements by PacRim they consider unsupported, it is not relevant to this decision on reconsideration because the October 24, 2011 Decision is based in all of the diverse materials in the administrative record and does not rely primarily on any of the materials from PacRim.

30. "The decision erroneously relies on the ability to predict impacts as proof of the ability to achieve reclamation."

The October 24, 2011 Decision recognized that there are impacts from surface coal mining, and reviewed prior regulatory actions that went through the formal process of predicting impacts of coal mining within the Chuitna watershed, including DNR's 1987 permitting decision and EPA's 1990 FEIS on the proposed Diamond Shamrock Chuitna Coal Project. These agencies predicted that there would be impacts to the environment from the project, but still deemed it appropriate to approve and permit the project consistent with applicable law. A petition for an unsuitability designation must be granted only when the Commissioner determines that reclamation is not technologically feasible. When it is predicted that impacts from particular projects can be reclaimed, it weighs against such a determination.

The ASCMCRA permitting process is premised on the ability to predict impacts and to create a plan that minimizes and reclaims those impacts, as is all preliminary, prophylactic regulatory activity. Without predicted impacts, operations and reclamation plans could not be tailored to a specific project, nor could regulators determine if these plans were unsatisfactory and a project should not be approved. While it cannot be proven that mining plans will operate smoothly and resolve all of the predicted impacts, they are the tool that regulatory agencies have available. This is the process laid out in ASCMCRA, and many recognize, including Dr. Margaret Palmer, whose research the petitioners cite, that "Society cannot approach restoration assuming that uncertainties will ever be reduced to zero."[573]

The petitioners also fault the October 24, 2011 Decision for failing to accurately predict impacts "30-50 years from now."[574] The October 24, 2011 Decision analyzed the 2010 Petition's original allegations regarding climate change and determined that the issues raised were outside the scope of the lands unsuitable petition process.[575] The petitioners re-raised the issue in the context of reclamation in the November 22, 2011 memo, where they cited a draft report that predicted changes in stream flow, snowpack, soil moisture, evapotranspiration, recharge, baseflow, and overland flow using a model of the current hydrologic regime and predictions about climate change.[576] While any dramatic changes to these variables could affect reclamation activities in the future, speculative uncertainties about the climate in 30 years are not directly related to a demonstration that reclamation is not technologically feasible in the petition area.

31. <u>"The record does not support the conclusion that reclamation of surface coal mining in the Chuitna watershed is technologically feasible."</u>

The proper standard for non-discretionary unsuitability designations reads: "the commissioner…shall designate an area as unsuitable for all or certain types of surface coal mining operations if the commissioner determines that reclamation in

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[573] Palmer, Allan, Meyer and Bernhardt: *River Restoration in the Twenty-First Century: Data and Experiential Knowledge to Inform Future Efforts,* Restoring Ecology (2007) at p. 472.
[574] November 22nd memo, Section K, at pp. 15-16.
[575] October 24, 2011 Decision at ¶¶ 203-208.
[576] November 22nd memo, Exhibit Z.

accordance with this chapter and regulations adopted under *it is not technologically feasible* in the area."[577] The October 24, 2011 Decision found that there is insufficient evidence in the administrative record to arrive at such a determination, notwithstanding the materials supplied by the petitioners. The administrative record also supports that reclamation in the petition area is likely technologically feasible. However, as the October 24, 2011 Decision explains, detailed consideration of the technological feasibility of reclamation for a particular project is not considered until the permitting process and is based on the what a project proposes for a specific site, as well as what is proposed and approved for post-mining land uses.[578]

32. "The decision erroneously relies on a letter from the Alaska Department of Fish and Game (ADF&G), which in turn erroneously concludes that feasibility of reclamation cannot be determined until there is specific project."

As part of the review of the 2010 Petition, DNR requested ADF&G review the papers authored by Palmer, Trasky and Wipfli, as referenced in point 15. ADF&G's review of these papers was summarized in a memo dated December 2010.[579] As the expert agency entrusted with managing Alaska's wildlife resources, ADF&G is heavily involved with the permitting process for coal mining, and DNR considered their review a piece of the competent and scientifically sound data and information making up the full administrative record.

ADF&G was also asked to review the petition to determine if there was enough information that would lead ADF&G to believe that reclamation in the petition area was not technologically feasible. ADF&G's response to DNR was that the information submitted with the petition, as well as information provided in response to the petition, "is insufficient at this time for ADF&G to determine whether reclamation of anadromous water bodies or riparian areas anywhere within the entire Chuitna River watershed is not technologically feasible."[580] The October 24, 2011 Decision

[577] AS 27.21.260(c)(1) (emphasis added).
[578] October 24, 2011 Decision at ¶¶ 152 and 240.
[579] October 24, 2011 Decision at ¶¶ 142 -144, citing Informal Comments on Three Reports Associated with the Proposed Associated with the Proposed PacRim Chuitna Coal Project, ADF&G (December 2010).
[580] *Id.* ¶ 145, quoting ADF&G letter dated May 26, 2011, at p. 2.

appropriately considered ADF&G's comments in regard to the technological feasibility of reclamation in the watershed as part of the 2010 Petition review process.

33. "The decision erroneously concludes that groundwater recharge impacts can be prevented."

The 2010 Petition asserted, and it appears that the petitioners are now reasserting, that allegations involving groundwater recharge should be reviewed under the petition process' mandatory standard regarding reclamation.[581] Allegations involving impacts to aquifer recharge are properly evaluated under the discretionary standard, and are centrally a concern when "operations could result in a substantial loss or reduction of long-range productivity of water supply or food or fiber products."[582]

Furthermore, the purpose of ASCMCRA is not to prevent impacts to groundwater recharge and the October 24, 2011 Decision does not claim that the performance standards will prevent such impacts. ASCMCRA anticipates impacts will occur, but establishes performance standards to minimize, avoid, or reclaim these impacts. These standards ensure that operations do not result in long-term adverse changes to the hydrologic balance.[583]

The National Academy of Sciences noted that reclamation measures will typically restore recharge capacity, and that precisely measuring recharge rates is not necessary:

> "Although accurate determination of differences between pre-and post-mining recharge rates is not practical, the committee concluded that enforcement of existing OSM regulations concerning mine reclamation will, in the vast majority of situations, result in post-mining recharge rates that equal or exceed pre-mining rates. This conclusion is based on the following currently required conditions:
>
> 1. The land surface is re-contoured and stabilized to the approximate pre-mining topography;
> 2. The site is typically re-vegetated with plants using less or approximately the same quantity of water as the pre-mining species;

[581] AS 27.21.260(c)(1).
[582] AS 27.21.260(c)(2)(C); October 24, 2011 Decision at ¶ 153.
[583] 11 AAC 90.321.

3. Compaction of surface soils and vadose zone materials is avoided; and
4. Restricting layers in the original vadose zone are broken up and dispersed in the reconstituted vadose zone by the mining and reclamation process." [584]

The October 24, 2011 Decision reviewed the 1990 FEIS for the proposed surface coal mine in the Chuitna watershed, in which the EPA determined that the reclamation plan for the proposed mine would ultimately create a groundwater regime similar to but not identical to pre-mining conditions.[585] The October 24, 2011 Decision did not use this document to claim that groundwater recharge impacts will be prevented, but it clearly supports a determination that the long-term hydrologic balance will not suffer adverse impacts from coal mining in the petition area. While the petitioners also assert that groundwater recharge capacity cannot be achieved within a reasonable timeframe,[586] there is not a specified timeframe set forth in regulation. Reclamation schedules are driven by the site and project specific plans provided during the permitting process for proposed projects.

In the course of this decision on reconsideration, DNR has reviewed OSM technical reference materials that deal with reclamation and recharge capacity. [587] By OSM standards, "restoration of recharge capacity does not mean that spoil has to be fully recharged before the permittee can be released from final reclamation liability. Mine site conditions, both at the surface and in the subsurface, must be conducive to establishing some underground water-bearing potential provided that condition existed prior to mining."[588] This statement recognizes that it may take time to recharge the backfilled spoil material, and this recharge does not have to be completed immediately post-mining. In addition, this source acknowledges that there are effective contemporary techniques to accelerate recharge through the use of water spreading, recharge pits/sumps, recharge wells, induced recharge or wastewater disposal.[589]

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584 National Research Council Report: *Surface Coal Mining Effects on Ground Water Recharge*, National Academy Press 1990 at page 97.
585 1990 FEIS at pp. 5-20.
586 October 24, 2011 Decision at ¶¶ 156.
587 OSM release titled *Hydrologic Considerations for Permitting and Liability*, June 2007 at p. 216.
588 *Id.* at 40.
589 *Id.* at Appendix p. 47

The petitioners' November 22, 2011 memo cites the paper written by Dr. Tom Myers and dated January 14, 2011 that analyzes the potential impacts to the groundwater system of the petition area from surface coal mining.[590] This document provides a detailed review of the preliminary surface and groundwater hydrology baseline data for the Chuitna Coal Project and concludes that the complex hydrology and complicated flow patterns that currently exist in the petition area will not exist after a mine is backfilled.

This paper and Dr. Myers' conclusions are not consistent with ASCMCRA's legislative history concerning impacts to the groundwater system. Congress has explicitly recognized that coal mining has impacts on the environment, including specifically on hydrologic balance.[591] Temporary changes to groundwater, including a decline in water levels, the drawdown in aquifers adjacent to mining operations, changes in local hydrologic gradients and a decline in water quality from pre-mining conditions can all occur during mining operations and in the course of reclamation. There can also be changes to the groundwater system within the mining area due to the removal of the pre-mining aquifer and creation of a spoil aquifer. Spoil aquifers generally see an increase in hydraulic conductivity and transmitivity, and a decrease in hydraulic head relative to the pre-mining aquifer.

As OSM recognized, contemporary mining practices have effective ways to address these impacts and prevent long-term adverse changes to the hydrologic balance of mine sites. Particularly, the selective handling and placement of overburden and interburden materials can mitigate impacts to groundwater, and augment recharge rates. This process places materials with distinctive hydrologic properties in places that are similar to their pre-mining location and thus mimics pre-mining conditions. While reclamation does not require recreating pre-mining geology, selective handling of overburden is a common practice for coal mining operations. In addition to separately handling topsoil, some operations also segregate spoil material that has the potential to generate acid mine drainage.[592] These techniques allow the

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[590] November 22nd memo, Exhibit J attachment.
[591] *See, e.g.*, H.R. REP. No. 218, 95th Cong. 1st Sess. 109 (H.R. 2 April 22, 1977). *Elements of mine regulation program; Mining impacts on hydrologic balance*, OSMRE COALEX Report 235.
[592] *See* National Research Council Report: *Surface Coal Mining Effects on Ground Water Recharge*, National Academy Press 1990 p. 79.

operator to reclaim areas in ways that resemble pre-existing aquifers and aquitards in the new spoil aquifer.[593]

In the Chuitna watershed, the shallow groundwater system consists of glacial till and alluvium and the deeper system consist of inter-bedded sequences of sandstone, siltstones and mudstones, as well as the coal formations.[594] Under these conditions, selective handling of overburden is important so that these natural materials can maintain their hydrologic properties. If these appropriate measures are taken, the information described above and contained in the full administrative record show that post-mining recharge rates can possibly be restored, and that there will not necessarily be long-term adverse impacts that result in a substantial loss or reduction of long-range productivity from coal mining activity.

34. **"**The decision erroneously concludes that aquatic productivity can be restored."

Because aquatic productivity, as the petitioners define it, may not be restored to pre-mining levels, the petitioners assert that reclamation is not technologically feasible, and therefore the petition area must be designated as unsuitable for mining under ASCMCRA's nondiscretionary standard.[595] Similar to the discussion in point 33, this is not the proper standard for evaluating these kinds of allegations. Impacts to aquatic productivity from surface coal mining are subject to the discretionary standard.[596]

The October 24, 2011 Decision addressed the fact that DNR and ADF&G recognize that surface coal mining at any scale would likely have at least some impact on aquatic productivity.[597] ASCMCRA regulations require re-constructed stream channels which "*may*, using the best technology currently available, be expected to restore aquatic productivity to pre-mining levels."[598]

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[593] Selective handling of overburden materials has been encouraged by OSM since the early 1980s. *See, e.g.,* Brown and Hallman, *Reclaiming Disturbed Lands*, U.S. Department of Agriculture publication, November 1984.
[594] October 24, 2011 Decision at ¶ 41.
[595] AS 27.21.260(c)(1).
[596] AS 27.21.260(c)(2)(C); Findings and Decision at ¶ 159.
[597] October 24, 2011 Decision at ¶¶ 159 -166.
[598] *Id.* at ¶ 160; 11 AAC 90.327(d)(3) (emphasis added).

There are effective technologies to support aquatic productivity, including the Alaska Resource & Economic Development, Inc. (ARED) system discussed in the October 24, 2011 Decision that uses existing salmon stock within the watershed to enhance fish populations in impacted streams.[599] The ARED system has been widely successful in enhancing salmon populations using similar genetic stock that was impacted. This system can be used to enhance salmon population below the disturbance and or accelerate the reintroduction of salmon back into mined portions of streams.[600]

The October 24, 2011 Decision also discussed potential impacts to off-channel rearing ponds that provide deep water habitat.[601] The operations and reclamation plans could include measures to control Northern Pike within the lower reaches of the Chuitna watershed and mitigate impacts to these rearing ponds. This kind of permit condition would benefit the watershed as a whole, because pike are an aggressive invasive species that threaten all salmonids in the area. This proposed mitigation measure was included in draft documents for the proposed Chuitna Coal Project.[602]

The October 24, 2011 Decision also addressed the concern raised by the petitioners that nutrients derived from salmon carcasses and woody debris would be absent from reclaimed headwater streams.[603] Current techniques for nutrient addition, such as the use of Pollock bone meal, transported salmon carcasses and salmon carcass analogs, and transplanted wood debris and log structures can all be used as part of a reclamation plan to provide needed nutrients for benthic organisms and salmon fry until natural sources are re-established.

35. <u>"The decision erroneously relies on a list of examples of "Successful Stream and Wetlands Reclamation Projects," that do not demonstrate the technological feasibility of reclamation for the petition area from surface coal mining."</u>

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[599] October 24, 2011 Decision at ¶ 164.
[600] *See, e.g.,* Travis, *Mining and Fisheries*, Alaska Miners Association Handbook (2011) (review of collocated mining and fisheries in Alaska and use of the ARED system). Available at http://www.alaskaminers.org/2011Mining&Fisheries.pdf.
[601] October 24, 2011 Decision at ¶ 164
[602] Draft Operation and Reclamation Plans for the Chuitna Coal Project, 2007 D7 Fish and Wildlife Protection Plan at p. 11.
[603] October 24, 2011 Decision at ¶ 144.

The petitioners again imply a broader standard of review for ASCMCRA unsuitability petitions than is proper; the statute states that the Commissioner must designate lands unsuitable for coal mining if the Commissioner "determines that reclamation in accordance with this chapter and regulations adopted under it *is not technologically feasible* in the area."[604] The Commissioner is not required to make a positive demonstration of the technological feasibility of reclamation for the petition area prior to denying a petition.

The petitioners argue that the stream restoration examples used in the October 24, 2011 Decision are not exact analogs of streams within the Chuitna watershed and thus cannot be used to show that restoration is technologically feasible. In their November 22, 2011 memo, the petitioners provided additional studies to contend that the stream restoration examples provided in the October 24, 2011 Decision do not support the possibility of restoration for streams in the Chuitna Watershed.[605]

The restoration examples in the October 24, 2011 Decision were not intended as perfect analogues of the streams in the petition area, but they are informative nonetheless. These examples were used to demonstrate methodologies and tools currently used in stream reclamation projects, and that these methods can be and are, in fact, successful.[606] Such examples provided competent and scientifically sound data and information that should be considered under ASCMCRA, and weighed against a determination that reclamation in the petition is not technologically feasible. While evidence in the administrative record supports the possibility that reclamation may be technologically feasible,[607] such a determination will ultimately have to be made during the site-specific permitting process in response to a specific proposal.

In the November 22, 2011 memo, the petitioners provide a review by Dr. Mitchell Swanson to further dispute these examples.[608] This review criticizes stream restoration techniques developed by Dr. Dave Rosgen that are used under regulatory regimes around the country. The October 24, 2011 Decision's discussion of Dr.

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[604] AS 27.21.260(b)(1).
[605] November 22nd memo at page 14.
[606] *See* Section II.A.19 *infra*.
[607] October 24, 2011 Decision at page 6 and ¶¶ 156, 181 and 197.
[608] November 22nd memo, Exhibit K, Report from Dr. Mitchell Swanson titled *Review of ADNR Decision Denying Petition to Designate Lands Unsuitable For Surface Coal Mining* and dated November 21, 2011.

Rosgen's methods was meant to illustrate how stream restoration techniques and mine reclamation have further evolved since the 1987 permitting decision that approved the Diamond Shamrock Chuitna Coal Project.[609] The fundamentals of stream restoration that Dr. Rosgen has pioneered have been applied to restoration projects across the country. These techniques focus on the physical properties of a reclaimed stream and their connections to their associated flood plain and riparian area.

Other professionals have also built on the successes and failures of stream restoration techniques, and modern practices advocate a holistic approach to stream restoration. For instance, the use of a "stream function pyramid" is now encouraged to guide the design and goals of a project.[610] The important hydraulic functions and sediment supply of streams form the base of this pyramid, and each higher level or reclamation goals builds on the lower levels.

A review of other stream restoration manuals shows that modern stream restoration techniques can be successfully applied to projects that involve long stream reaches or complex hydrologic regimes. In fact, these concepts are now able to be applied to large coal mines using sophisticated computer programs.[611] Mine site reclamation using computer programming has been recognized by OSM for its outstanding reclamation capabilities.[612]

PacRim's reclamation examples provided in its January 19, 2011 intervention letter[613] did not involve environmental conditions exactly similar to the environment in the petition area, but its reclamation examples of fish-bearing waters and wetlands are still relevant to an analysis of the 2010 Petition. These examples show that

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[609] October 24, 2011 Decision at ¶ 182.
[610] Harman, et. al., *A function-Based Framework for Stream Assessment and Restoration Projects*, EPA Office of Wetlands, Oceans and Watersheds report 843-K-12-006 (2012), p. 344.
[611] One example is the Carlson Natural Regrade software package which can be used by mining engineers and regulators to design and implement mine reclamation.
[612] OSM's 2004 Best of the Best award was awarded to the San Juan Coal Company for implementing geomorphic reclamation at their mining operations. List of Honorees available at http://www.osmre.gov/topic/awards/Archive/86-05%20Archive%20Awards_winners.shtm. In addition, OSM has sponsored an initiative to implement geomorphic reclamation in coal producing states and hosted forums to share examples of effective implementation and successful reclamation. Brochure and invitation example available at http://www.techtransfer.osmre.gov/NTTMainSite/Initiatives/Geomorph/geomorph.shtm.
[613] Letter and accompanying exhibits from Joe Lucas, Pac Rim, to DNR Commissioner Sullivan dated January 19, 2011.

appropriate planning, monitoring, and mitigation allows for the reclamation of streams and associated riparian areas in a variety of climates and different scales. Additionally, many of these examples were in areas where resident and anadromous fish showed significant recovery within the restored streams.

The petitioners also submitted three papers concerning impacts to hyporheic flow as exhibits to their November 22, 2011 memo, but did not discuss them in detail.[614] They also referenced a fourth paper, which deals with the importance of groundwater and surface water interactions in the hyporheic zone.[615] Plans to reestablish hyporheic flow can be incorporated into the initial design for a reclaimed stream channel using features such as riffles, large woody debris, meanders, and augmentation of the substrate. These features have all been shown to be effective at enhancing hyporheic exchange.[616] Such designs also require monitoring and maintenance to control sediment influxes from upstream areas. While hyporheic flow is an important stream function, impacts to hyporheic flow are not specifically prohibited by regulation, nor are there precise regulatory requirements to reestablish hyporheic flow to pre-mining conditions.[617]

36. "The decision erroneously concludes that there is insufficient evidence to support the petition."

The October 24, 2011 Decision considered not only information provided with the 2010 Petition, but also information provided by the intervenors, the public, and gathered by DNR to evaluate all of the petitioner's points. Based on this record, the October 24, 2011 Decision rightly determined that there is insufficient evidence to compel a determination that reclamation in the petition area is not technologically feasible. The petitioner's request for reconsideration, the petitioner's supplemental submissions, and the administrative record upon reconsideration are insufficient to overturn the October 24, 2011 Decision to not designate the petition area as

[614] November 22nd memo, Exhibits W, X, Y; November 22nd memo, Section K, at p. 15.
[615] November 22nd memo, Exhibit V.
[616] Hester and Gooseff, *Hyporheic Restoration in Streams and Rivers*, American Geophysical Union Geophysical Monograph 194: *Stream Restoration in Dynamic Fluvial Systems: Scientific Approaches, Analyses and Tools* (2011), pp. 167-187.
[617] See 11 AAC 90.327(d)(3) (regulation regarding permanent diversions to stream channels and stream channel restoration, which does not discuss hyporheic flow).

unsuitable for all or certain types of surface coal mining activities within the Chuitna watershed.

PART IV. DECISION ON RECONSIDERATION

After careful review of all of the issues raised, consideration of the record and the applicable Alaska Statutes and regulations, and for the reasons stated above, the October 24, 2011 Decision is affirmed.

Daniel S. Sullivan
Commissioner

7/19/13
Date

This decision has an issuance date of the 26th day of July, 2013.

This decision is the final administrative order and decision of the Department for the purpose of an appeal to Superior Court. An eligible person affected by this final administrative order and decision may appeal to Superior Court within 30 days in accordance with the Alaska Rules of Court and to the extent permitted by applicable law.

Cc via email:

Brent Goodrum, Director, Division of Mining, Land, and Water (DMLW), DNR
Scott Pexton, Chief, Mining Section, DMLW, DNR
Gregory Jones, Executive Director, Alaska Mental Health Trust Land Office
Joe Lucas, Manager, PacRim Coal, LP
Michaelene Stephan, President, Board of Directors, Tyonek Native Corporation