

## **APPENDIX M**

# **PUBLIC AND AGENCY COMMENTS OF THE DRAFT EIS**

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## **M.1 READER'S GUIDE**

### ***HOW IS THIS APPENDIX ORGANIZED?***

The Response to Comments contains three main sections. The first section, Section 1, provides a brief introduction and an overall summary of the process of soliciting, receiving, and evaluating comments on the Draft Environmental Impact Statement (DEIS). Section 1 also includes a table to assist the reader in finding specific comment letters, facsimiles, and e-mails (henceforth, collectively referred to as comment letters). Table M-1 contains a listing of the comment letters received on the DEIS. Each comment letter received was assigned an alphanumeric identification code. Additional information in Table M-1 includes the name of the applicable organization or individual, address, date of receipt, and a listing of substantive comments identified for each comment letter. Section 2 of this appendix contains copies of letters from Federal, State, and local agencies. All other comment letters are part of the project files and are available to the public upon request. Section 3 contains a summary table of all comments arranged by commentor and the Federal Aviation Administration (FAA) response to each comment. Please, note that this third section responds to substantive comments in all the letters received, not just the comment letters found in Section 2.

### ***HOW DO I KNOW THE FAA RECEIVED MY LETTER?***

All letters received by the FAA during the comment period for the DEIS are listed in Table M-1. If your name appears in Table M-1, your letter was received. This table can be used to find your name (or organization's name), the identification number of your letter, and the comments that received responses.

### ***HOW DO I FIND MY COMMENT?***

A specific comment letter can be located by looking up the name of the author(s) or commenting organization in Table M-1. The associated comments and responses for that letter can be found in Table M-2 of Section 3 under the author's or organization's name.

### ***WHAT WAS THE RESPONSE TO MY COMMENT?***

FAA responses to the identified comments are grouped by the name of the commentor or commenting organization in Table M-2 of Section 3.

## **HOW DO I FIND WHAT COMMENTS ANOTHER INDIVIDUAL, GROUP, ORGANIZATION HAD?**

Table M-1 of Section 2 lists all individuals, groups, and organizations from whom the FAA received comments. Table M-2 of Section 3 contains a summary of all comments received on the DEIS. These comments, and the associated responses, are organized alphabetically according to the name of the commentor or commenting organization. Simply scroll through the table to find the name of the individual, group, or organization whose comment(s) you wish to review.

## **M.2 PUBLIC COMMENT SUMMARY**

The main function of this appendix is to provide a record of public and agency comments received on the DEIS and the FAA's response to those comments. The following discussion explains how the comments were solicited on the DEIS and how those comments were processed. A detailed list of persons, organizations, or agencies submitting comments on the DEIS is presented in this section. The Reader's Guide at the front of this appendix has also been provided to assist the reader in understanding how to find their comments and the agency responses to their comments.

The processing of comments on the DEIS that were used to prepare the Final EIS followed the mandates of the National Environmental Policy Act (NEPA) (1969, as amended) and a process established by the Council on Environmental Quality (CEQ) regulations, which provide that agencies must "(m)ake diligent efforts to involve the public in ... NEPA procedures" (40 CFR 1506.6(a)). Although this appendix deals primarily with the comments received on the DEIS, the reader should also be aware that public involvement preceded the release of the DEIS, which included comments on the scope of issues that should be addressed in this EIS document.

## **PUBLIC SCOPING**

Preparation of the DEIS that preceded this Final EIS included soliciting comments from other agencies and the public to determine the scope of the document. NEPA (1969, as amended) requires that early public involvement in the EIS process be used to identify issues and address any potentially significant concerns related to the proposed action. Public and agency involvement continued in various ways throughout this EIS process and was extremely important in formulating the scope and content of the DEIS. The Purpose and Need, identification of important issues and concerns by the public and agencies, the scope of actions evaluated in the EIS, and alternatives considered resulting from scoping efforts are discussed in Chapters 1 and 2 of the Final EIS. However, comments provided prior to the preparation of the DEIS, during the scoping process, should not be confused with the comments received *on* the DEIS.

## ***PUBLIC AND AGENCY MEETINGS***

Following the release of the DEIS, the FAA held public hearings in Juneau, Alaska on June 1 and 2, 2005 to receive formal public comment on the DEIS, to provide an overview of the NEPA process, and to answer any questions related to the proposed actions and their alternatives, and the impact analysis. Agency meetings were held on June 3, 2005 to review the content of the DEIS, to answer questions, and to facilitate agency review.

## ***COMMENT PROCEDURE***

The Notice of Availability for the FAA's Juneau International Airport Draft EIS was published in the Federal Register on April 13, 2005. The public comment period began April 29, 2005 and ended June 30, 2005, constituting a 62-day comment period.

Recipients of a copy of the DEIS and/or attending the public meeting were given instructions on how to provide comments and where they should be sent. They were advised that comments should be as specific as possible in terms of adequacy of the DEIS and/or merits of the alternatives discussed. A stenographer was present at the June 1st and 2nd meetings to record the oral comments. Comment forms were also made available at these meetings.

All comment letters were copied and sent to a third-party consultant where they received an alphanumeric identification code and were placed in the project planning record. The full text of each comment letter, oral comment, facsimile, or e-mail received from individuals or groups are held in the FAA's Juneau International Airport EIS project files in Anchorage, Alaska, and may be viewed upon request. Letters received from Federal, State, and local agencies and elected officials are included in Section 2 of this appendix. Comments from each comment letter (or other form of comment) were identified and organized in two ways, by commentor and by resource or issue of concern. Section 3 of this appendix includes each comment or summary of comments organized by commentor and the associated response to the comment.

Consistent with NEPA regulations (40 CFR 1503.4(b)), this document focuses on substantive comments on the DEIS. Substantive comments include those that challenge the accuracy of information in the DEIS or that offer specific information that may have a bearing on the decision. Comments that merely express an opinion for or against the proposed action were not identified as a comment requiring a response. In cases where the comment was substantive but appeared to indicate that information in the DEIS was either misunderstood or unclear, a response was prepared to clarify the information. Resource specialists from the third-party consultant prepared draft responses to each substantive comment, which were then reviewed, refined, and approved by FAA personnel and subsequently prepared in the form found in this Final EIS.

Table M-1 provides an index of agencies, organizations and individuals that commented on the DEIS. It also includes a unique identification number, name of commentor or organization (if applicable), date the comment letter was received by the FAA, and a list of numbered comments contained in the respective letter.

Table M.1. List of Respondents

ID #	Date Received	How received	Name	Organization	City	State
001	6/1/2005	testimony	Vivian Hegg		Juneau	AK
002	6/1/2005	testimony	Fred Gaffney		Juneau	AK
003	6/1/2005	testimony	Fred Honsiger		Juneau	AK
004	6/1/2005	testimony	Steve Zimmerman	Juneau Audubon Society	Juneau	AK
005	6/1/2005	testimony	Mike Miller		Juneau	AK
006	6/1/2005	testimony	Gordon Evans	Juneau Airport Board	Juneau	AK
007	6/2/2005	testimony	Mark Rorick	Sierra Club	Juneau	AK
008	6/2/2005	testimony	Jenny Purcell		Juneau	AK
009	6/2/2005	testimony	Dixie Hood		Juneau	AK
010	6/2/2005	testimony	Joe Heuelsen		Juneau	AK
011	6/2/2005	testimony	Dick Roundtree		Juneau	AK
012	6/2/2005	testimony	Richard J. Gordon		Juneau	AK
013	6/2/2005	testimony	Laurie F. Craig		Juneau	AK
014	6/2/2005	testimony	Ron Swanson	Juneau Airport Board	Juneau	AK
015	6/2/2005	testimony	Sally Rue		Juneau	AK
016	6/2/2005	testimony	Terry Stone	City & Borough of Juneau Engineering Dept	Juneau	AK
017	6/2/2005	testimony	Tom Williams		Juneau	AK
018	5/23/2005	email	Ben Mello	Juneau International Airport	Bedford	NH
019	6/4/2005	email	Johnathan Anderson		Juneau	AK
020	6/15/2005	email	Lance Mearig			

**Table M.1.1.** List of Respondents

ID #	Date Received	How received	Name	Organization	City	State
021	6/2/2005	letter	James Wilson	Coastal Helicopters, Inc	Juneau	AK
022	6/2/2005	letter	Albert Shaw	SEIF	Juneau	AK
023	6/2/2005	letter	Margo Waring		Juneau	AK
024	6/2/2005	letter	Susan Andrews		Juneau	AK
025	6/2/2005	letter	Vivian and Karl Hegg		Juneau	AK
026	6/27/2005	letter	Buck Lindekugel	Southeast Alaska Conservation Council (SEACC)	Juneau	AK
027	6/27/2005	letter	Brenda Wright	Juneau Audubon Society	Juneau	AK
028	6/20/2005	letter	Dixie Belcher		Juneau	AK
029	6/27/2005	email	Dennis Watson		Juneau	AK
030	6/27/2005	email	Dennis Watson		Juneau	AK
031	6/27/2005	email	Fred Morino		Juneau	AK
032	6/29/2005	letter	Roger Woodruff	USDA, Animal and Plant Health Inspection Services, Wildlife Services Program	Olympia	WA
033	6/29/2005	email	Bill Peters		Juneau	AK
034	6/30/2005	email		Territorial Sportsmen, Inc.	Juneau	AK
035	6/30/2005	email	John Cooper	Mendenhall Refuge Citizens Advisory Group	Juneau	AK
036	6/30/2005	email		Mendenhall Watershed Partnership, Inc.	Juneau	AK
037	6/30/2005	email	Scott Spickler		Juneau	AK
038	6/30/2005	email	Chris Wyatt	Juneau Chamber of Commerce	Juneau	AK

Table M.1. List of Respondents

ID #	Date Received	How received	Name	Organization	City	State
039	6/30/2005	email	Laurie Craig		Juneau	AK
040	6/30/2005	email	Ron Swanson	Juneau International Airport Board of Directors	Juneau	AK
041	6/30/2005	email	Kathy Smith	Alaska Airlines, Inc.	Seattle	WA
042	6/30/2005	email	Tom Schumacher	Alaska Dept of Fish and Game	Douglas	AK
043	6/30/2005	email	Michael Story		Juneau	AK
044	6/30/2005	email	Brady Scott	Alaska Division of Mining, Land and Water	Juneau	AK
045	6/30/2005	email	Brady Scott	Alaska Division of Mining, Land and Water	Juneau	AK
046	7/1/05	email	K. Koski	Duck Creek Advisory Group	Juneau	AK
047	7/1/05	email	Neil Stichert	Duck Creek Advisory Group	Juneau	AK
048	7/5/05	letter	Tom Schumacher	Alaska Dept of Fish and Game	Douglas	AK
049	7/5/2005	letter	Mike Barton	Alaska Department of Transportation	Juneau	AK
050	6/29/2005	letter	Randal Vigil	Army Corps of Engineers	Juneau	AK
051	7/5/2005	letter	Kathy Smith	Alaska Airlines, Inc.	Seattle	WA
052	7/7/2005	email	Michelle Pirzadeh	Environmental Protection Agency Region 10	Seattle	WA
053	7/11/2005	email	Willie Taylor	DOI, Office of Environmental Policy and Compliance	Washington	DC
054	7/13/2005	email	Susan Kennedy	National Oceanic and Atmospheric Administration, National Marine Fisheries	Silver Springs	MD

### **M.3 PUBLIC COMMENT AND RESPONSE SUMMARY**

This section contains a summary table (Table M-2) of all substantive comments received on the DEIS and the FAA responses to those comments. The summary table is organized by the individual or organizational name of the commentor. All comments received from a given individual or organization are listed under the commentor name, even if a given commentor provided comments on more than one occasion or via more than one method.

**Table M-2. Summary of DEIS Comments and FAA Responses**

#	Comment Summary/Excerpt	Response
362	<p>We believe proponents should make every effort to minimize impacts to wetlands... however, we defer to the CBJ on the feasibility of EMAS.</p> <p>The State of Alaska stands ready to transfer, in accordance with appropriate statutory and regulatory requirements, the amount of land needed for whichever alternative is chosen. All RSA alternatives require Title 41 authorization</p>	<p>Thank you for your comments. FAA has the statutory authority and expertise to determine feasibility of runway safety area alternatives including EMAS.</p>
363	<p>ADF&amp;G and OHMP support a relocated east runway slough as the preferred approach [over bottomless arch concrete culverts or corrugated metal pipe culverts].</p>	<p>Thank you for your comment.</p>
364	<p>Lengthening the culvert without upgrading existing Sections of culvert [as proposed by CBJ] would further degrade fish passage. The DEIS proposal of a new bottomless arch culvert or bottomless box culvert 770 feet long with daylight ports would not degrade fish passage and would potentially improve fish passage over current conditions. Timing the culvert replacement... could result in a delay of 10 years or more. OHMP could allow for a phased approach to replacing existing culverts but may require additional improvements to fish passage or fish habitat on Jordan Creek upstream of the project to mitigate the delay.</p>	<p>Thank you for your comment. FAA acknowledges that additional mitigation could be required due to the delay in installation of arch culverts in Jordan Creek under the runway.</p>
365	<p>Opportunities for mitigation projects on Jordan Creek to offset adverse impacts on fish habitat might include Crest St. culvert replacement. Also DEC is developing a TMDL and recovery plan for Jordan Creek. Actions identified in the TMDL to restore degraded habitat could be considered as appropriate mitigation for impacts to fish passage in Jordan Creek.</p>	<p>FAA concurs that the Crest Street culvert replacement and Jordan Creek TMDL actions may be appropriate projects to consider as compensatory mitigation for Airport actions affecting Jordan Creek. These and other actions should be evaluated by ADF&amp;G and other permitting and consulting agencies for inclusion in the JNU mitigation plan.</p>
366	<p>re: dam removal. The dam and pond were likely constructed to improve upstream fish passage through the culvert because the runway culvert is undersized and impeded downstream fish passage at some stages of the tide. Removal of the dam requires OHMP authorization. Improvement to fish passage through the runway culvert would be required prior to removing the dam to avoid degrading upstream fish passage.</p>	<p>There are alternatives to the dam that can help with upstream fish passage that do not result in a hazardous wildlife attractant (i.e. collection area for spawned out fish). Such alternatives may include bioengineering or excavation of the pool to make fish passage into the culvert easier. Evaluation of these alternatives should include consideration of wildlife hazard attractants. Timing of the dam removal would be determined in the permit.</p>



Table M-2. Summary of DEIS Comments and FAA Responses, continued

#	Comment Summary/Excerpt	Response
367	<p>We have questions about the design for Duck Creek. The amount of riprap seems excessive. We would like to see some other options, such as bioengineering techniques such as root wads, brush/hedge layering, or vegetated cribbing be considered. If properly designed and constructed, such structures provide better fish habitat and a durable stable stream bank. Additionally, an impervious liner is proposed to reduce loss of water through the streambed. A liner may also limit natural channel migration within the floodplain and may fail due to hydrostatic pressure from changes in the water table. Soil testing in the location of the proposed new channel and floodplain may determine the expected extent of infiltration through the streambed and the need for a liner.</p>	<p>The FAA has recommended in the FEIS that bioengineering be considered during final design of all projects involving Duck Creek, should an action alternative be selected. We agree that bioengineering techniques, if properly designed and constructed, are appropriate for bank stabilization on Duck Creek and provide better fish habitat. FAA has also recommended that the ADF&amp;G be consulted during detailed design of the Duck Creek channel so that additional consideration to the agency's concerns may be given.</p> <p>The Noll report (ADNR, 1995) clearly identifies the flow losses in lower Duck Creek at flows of 3 cfs and less. The Nancy Street gage operated by USGS demonstrates that discharge in Duck Creek is often below this threshold. The anecdotal evidence of frequent dewatering of Duck Creek below Berners Avenue is compelling. The proposed liner is indicated as extending past the proposed channel to allow for potential channel migration, as shown in the Duck Creek relocation plan and cross sections figure (Figure 2-37) of the FEIS. Geotechnical studies would be required during the design process to determine the appropriate liner materials (clay, geotextile, etc). There is no data suggesting that hydrostatic pressure changes in the groundwater table will present a design challenge along the proposed relocation reach.</p> <p>Please, also see the response to Comment No. 413 regarding the functional purpose of the proposed streambed liner for Duck Creek.</p>
368	<p>CBJ's preferred alternative would shorten the reach of Duck Creek by several hundred feet. The resulting loss of fish habitat would need to be mitigated.</p>	<p>Fish habitat impacts are partially self-mitigated by improving transport function in lower Duck Creek to minimize channel dewatering through the use of liner. Additionally, maintenance of the minimum 50-foot wide stream buffer corridor along the new Duck Creek channel would provide some benefit to fish habitat. However, the FAA acknowledges that additional compensatory mitigation may be required.</p>
369	<p>The Refuge plan contains specific language allowing fill of bodies of water adjacent to the existing airport runway to eliminate them as sites attractive to waterfowl. WH-2c is the most consistent with the Refuge plan. However, WH-2c and WH 1c differ little in environmental consequences. Similar mitigation needed for both. However, Alternative RSA-6B would mostly eliminate this hazard, thereby reducing amount of wetlands/Refuge lands and necessary mitigation.</p>	<p>Thank you for your comment, FAA concurs with the conclusions.</p>

**Table M-2.** Summary of DEIS Comments and FAAResponses, continued

#	Comment Summary/Excerpt	Response
370	<p>WH-1C and WH-2C (and RSA Alternative 6B) describe using riprap to stabilize portions of the Mendenhall Riverbank. We believe this is an area where planners could use bioengineering techniques such as root wads, brush/hedge layering, or vegetated cribbing instead of or in conjunction with riprap. Please provide a plan that makes use of such features, or an analysis of why they would be unfeasible or undesirable in this application.</p>	<p>Bioengineering design and implementation is appropriate for Duck Creek and its confluence with the Mendenhall River, but the design and construction efforts for the Mendenhall itself would be much greater, and with less certainty of success. The Mendenhall is a powerful river with 100-year flow velocities frequently running 7-10 feet per second and 11-14 feet deep. The shear stress on banks is moderate to high. Large wood would be needed to dissipate some of the associated channel energy, and the tidal conditions would severely limit the using of brush layering and vegetated crib walls. Root wads and large wood members (&gt;24 inches DBH and 40-60 feet) can be used in these situations, but the buoyant forces and bending moments on wood members would be enormous, requiring deep burial and other anchoring. Considerable information and analyses would be required to ascertain if bioengineering techniques could be used successfully to protect vital transportation infrastructure along the Mendenhall. What would be key to successful application of bioengineering techniques on the Mendenhall is understanding the power of the river and the processes that operate along an appropriate reach, not just the site where reclamation would take place. This is a complex setting, and one where bioengineering techniques may be applicable, but at a cost that is likely to be above that of standard treatments. The specific methods of bank stabilization should be determined by the Sponsor in consultation with permitting and consulting agencies. Additional information about and recommendations for considering the use of bioengineering techniques during final project design have been added for the FEIS.</p>
371	<p>We support MALSR installation and look forward to reviewing more detailed plans.</p>	<p>Thank you for your comment.</p>
372	<p>A pipeline under Duck Creek would impact the stream less than adding another road crossing and lessens the risk of fuel entering the creek. Although there is a risk of undetected pipelines leaks, there would be a greater risk of spills or leaks from fuel trucks crossing the creek and polluted runoff from the road entering the creek. Trenching across the creek would be an acceptable alternative to directional drilling for pipeline installation.</p>	<p>Thank you for your comments. The benefits and drawbacks of fuel pipelines, including those noted in the comment, are outlined in Section 2.8.3.2.</p>
373	<p>Section 3.9.1.2 provides information about fish populations in Duck Creek, Jordan Creek, and the Mendenhall River. ADF&amp;G has more recent data for 2003 and 2004 in Duck and Jordan Creeks.</p>	<p>Thank you for the information. The FEIS incorporates more recent fisheries data obtained from ADF&amp;G.</p>

Table M-2. Summary of DEIS Comments and FAA Responses, continued

#	Comment Summary/Excerpt	Response
374	Table 1.8 and elsewhere, the Anadromous Fish Act is cited as AS 16.05.870. The correct citation is AS 41.14.870.	We concur, thank you for correcting this error. Table 1.8 and the text have been revised to reflect the correct citation.
375	Page 3-19, 2nd bullet: ADF&G has the authority to issue Special Area Permits.	We concur, thank you for correcting this error. The text of the second bullet item has been revised to reflect the correct citation.
Alaska Department of Transportation		
393	The State of Alaska disagrees with the assertion that the MWSGR is subject to Section 4(f) of the Department of Transportation Act of 1966. Of issue is the designation of "significance" to the entirety of the MWSGR. 49 USC 303 expressly reserves the significant determination to the state officials with jurisdiction over a state wildlife Refuge. The State of Alaska has not made this determination. AS 16.20.034 (h) and (i) clearly express the intent of the Alaska legislation when establishing the Refuge and has predetermined that the MWSGR is not significant when the CBJ, as airport owner, needs to acquire MWSGR land for transportation projects. Therefore, the 4(f) designation is not appropriate, and the EIS should be amended to reflect this. As landowner of the MWSGR, the State feels that the EIS does not accurately portray the State of Alaska's position on land transfer for airport needs. The State also strongly asserts that the State of Alaska, not the FAA is the proper authority to decide whether 4(f) provisions apply. The EIS should be amended to better reflect the State's position.	In its September 9, 2005, letter to Commissioner Barton regarding the issue of Section 4(f) determination for the Refuge, the FAA addressed the issues raised in the comment. Under Section 4(f) legislation, Federal case law, and FAA Order 5050.4A, the FAA is directed to make a determination with regards to the applicability of Section 4(f) to individual properties and to the significance of those properties unless the Federal, state, or local official having jurisdiction over the property has made a determination that the <i>entire</i> property is insignificant. In the case of the Refuge, no such determination has been made. In the absence of such determinations, FAA is required to consider the entire property significant. Additionally, the FAA is directed to review previous determinations regarding the applicability of Section 4(f) to properties and the significance of properties and make an independent determination regarding both issues. The ADOT is not the agency with jurisdiction over the lands in question. FAA relied upon many sources of information to make a determination of significance for the Refuge, include the enacting legislation, consultation with agencies (e.g., ADF&G) having jurisdiction over and expertise in resources contained within the Refuge, the State Wildlife Viewing Website, and public testimony.
Alaska Airlines		
359	Alaska Airlines is concerned that the potential costs associated with installation, repair, and/or replacement of EMAS at Juneau would cause an unreasonable financial burden upon JNU, CBJ, the air carriers serving the airport, and ultimately, the flying public.	As identified in the response to Comment No. 59, installation and replacement of the EMAS bed would be classified as an Airport Improvement Program (AIP) eligible project by the FAA, which would have a federal funding participation of 95% based upon current funding allocations. The local 5% funding match for the project would be required as it would be for any other project.

**Table M-2.** Summary of DEIS Comments and FAA Responses, continued

#	Comment Summary/Excerpt	Response
360	Based on upon information currently available to it, Alaska [Airlines] understands that adequate technical information regarding the effectiveness and reliability of EMAS in climates such as Juneau does not exist.	FAA does not concur with this assessment. EMAS has been installed at a number of airports that experience high levels of humidity and temperature extremes, including JFK in New York and MSP in Minnesota. The technology has proven to be successful in the arresting of three (3) aircraft (i.e., a B-747 and MD-11 cargo aircraft, and a SAAB 340 commuter aircraft) at JFK, which experiences cold wet winters within a marine environment. These aircraft arrests are credited with saving both lives and ten of millions of dollars in aircraft equipment.
361	Alaska Airlines proposes that consideration be given to alternatives to EMAS, such as the one identified by the International Airport Board in its letter to CBJ dated June 20, 2005.	FAA has determined that EMAS "provides a level of safety that is generally equivalent to a full RSA constructed to the standards of AC 150/5300-13 for overruns" (FAA Order 5200.9). The Airport Board's compromise proposal does not meet FAA RSA standards. The FAA considered two traditional fill RSA alternatives (RSA-1 and RSA-5C) in the DEIS and has worked with CBJ and JNU to develop three modified traditional fill RSA alternatives (RSA-5D, RSA-5E, and RSA-6D) for the FEIS. FAA has determined that Alternatives RSA-6A and -6B, which incorporate EMAS on both runway ends, are not prudent based on cost since these alternatives are approximately 2.5 times the cost of traditional fill RSA alternatives and exceed FAA's \$30 million financial feasibility threshold for runway safety area at JNU.  In December 2006, Congress enacted Public Law 109-433 (Section 10), which requires that the Secretary of the U.S. Department of Transportation select the RSA alternative that is the least expensive but still meets FAA standards and does not shorten the useable runway length. This legislation requires selection of an RSA alternative based on cost, runway length, and FAA standards, and not the level of environmental impact. EMAS technology is more expensive than traditional fill. As such, RSA alternatives using EMAS (such as RSA-6A, RSA-6B, and RSA-6C) may not be selected in the Record of Decision.
Alaska Division of Mining, Land, & Water		
385	Please include the Alaska Division of Mining, Land and Water as an interested agency in Section ES.1.6	The Alaska Division of Mining, Land and Water has been added as an interested agency in Section ES.1.6 and Section 1.6.

**Table M-2.** Summary of DEIS Comments and FAA Responses, continued

#	Comment Summary/Excerpt	Response
Anderson		
81	I support use of EMAS. Objections that we don't know how it will work in snow and cold weather are not believable when we have experience with airports such as Buffalo.	According to information provided by the manufacturer, Engineered Arresting Systems Corporation (ESCO) a total of fifteen (15) EMAS systems have been installed within the U.S and five (5) more are under contract. Six of the existing EMAS installations are located within cold winter climates (i.e., JFK, Rochester, Binghamton, & Poughkeepsie, New York, Hyannis Massachusetts, and Minneapolis St. Paul Minnesota). Also, three of the installations under contract are located within cold weather climates (i.e., La Guardia, New York and Boston, Massachusetts).
82	Adopt the plan with the least environmental impact on the wetlands.	By law, the U.S. Army Corps of Engineers may only issue wetland fill permits for the least environmentally damaging practicable alternative. According to 40 CFR 230, "no discharge of dredged or fill material shall be permitted if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences.... An alternative is practicable if it is available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes."
Andrews		
97	Thank you for putting so much effort, financially and otherwise, into the EIS proposal	Thank you for your comment.
98	As a wetlands (dike trail) walker for 30 years, I am very grateful to have that trail saved.	Thank you for the comment. JNU has committed to maintain the dike trail regardless of the alternatives selected for implementation.
Audubon Society		
9	If the Airport Board's compromise is less acrimonious, we'll accept that.	Thank you for your comment. FAA has determined that EMAS "provides a level of safety that is generally equivalent to a full RSA constructed to the standards of AC 150/5300-13 for overruns" (FAA Order 5200.9). The Airport Board's original compromise proposal does not meet FAA RSA standards. Since the publication of the DEIS, both the Airport and the FAA have offered modified RSA proposals (RSA-5D, RSA-5E, and RSA-6D) that are evaluated in the FEIS.

**Table M-2.** Summary of DEIS Comments and FAA Responses, continued

#	Comment Summary/Excerpt	Response
9	<i>(continuation of response to comment)</i>	In December 2006, Congress enacted Public Law 109-433 (Section 10), which requires that the Secretary of the U.S. Department of Transportation select the RSA alternative that is the least expensive but still meets FAA standards and does not shorten the useable runway length. This legislation requires selection of an RSA alternative based on cost, runway length, and FAA standards, and not the level of environmental impact. EMAS technology is more expensive than traditional fill. As such, RSA alternatives using EMAS (such as RSA-6A, RSA-6B, and RSA-6C) may not be selected in the Record of Decision.
10	Removal of trees in the floatplane pond may be counterproductive. Trees appear to be a barrier to geese that might otherwise fly across runway.	Removal of all trees may result in foraging activities of raptors and may actually increase bird hazards. While trees may appear to be a barrier to bird movement, there are no data to support these observations that are generally taken from the ground where observations themselves are limited by the trees. Radar studies across the nation have never shown trees to be a significant “barrier” to bird movements.
11	Trees provide a place for eagles to perch that might otherwise fly from perches on the other side of the runway. They may also act as a deterrent to geese.	These comments are based upon speculation of what birds might do following complete removal of trees from the float pond area. There are no data and no published studies that support these claims. Eagles currently use perches on all sides of the runway. Geese may periodically appear to fly around trees, but they fly over trees as well.
12	Closed conifer forest is the least attractive habitat with respect to birds of concern (Carstensen and Armstrong, 2004).	A closed conifer forest is less attractive to most of the species of concern. The opening of the understory was only recommended to reduce habitat for deer. If an appropriate security fence is installed, the imperative for removing understory is lessened.
13	Tree removal improves conditions for long tailed voles, in turn attracting raptors and short-eared owls.	Increased vole populations could be a consequence of tree removal. In addition to raptors and owls, great blue herons are also attracted to voles.
14	Local expert knowledge will help avoid mistakes in proposed future activities (like the previous cutting of Jordan creek trees, which increased bird usage). A working group can monitor adaptive management approaches and make sure proposed actions are safe.	Thank you for your comment. FAA believes that a wildlife hazard working group representing Airport, state, and federal officials and community expertise would provide a regular mechanism to review how well the wildlife hazard management program is working and, if necessary, a forum to discuss and recommend improvements. This advisory group would improve communications between the Airport and community, and increase public awareness of the importance of an effective hazard abatement program in providing safe aviation operations at Juneau.

**Table M-2.** Summary of DEIS Comments and FAA Responses, continued

#	Comment Summary/Excerpt	Response
105	It does not appear that an attempt has been made to seek less damaging alternatives or to avoid or minimize impacts as required by Section 404 of CWA.	The FAA developed alternatives that minimize environmental impacts in three ways. First, the EIS Team conducted an independent analysis of the need for new facilities based on most current operational information (see Table 1-3) and updated projections for air travel demand (see Table 1-4). This analysis established an optimum number of facilities based on current and future need, thereby eliminating speculative development from the alternatives. Second, FAA incorporated efficiency objectives into the alternatives; for example, separation of helicopter operators from fixed wing operators, and GA hangars from commercial operations. This layout efficiency decreases operator conflicts and in some instances reduces facility separation requirements, with the result that less development space is needed while still meeting FAA safety standards. Finally, FAA also has denied the Sponsor's requests for increased development space by maintaining, for example, a larger setback corridor along Duck Creek.
106	Sources indicate moving the mouth of Duck Creek would not clearly reduce the bird strike potential at JNU (Wilmoth Rossi and Linnel, 2000, and Carstensen and Armstrong 2004). If the real rationale for moving the creek is to provide more tie-down spaces, this should be given as primary need.	There are multiple reasons for moving Duck Creek, including benefits to the wildlife hazard management program, extension of the west end runway safety area, and to facilitate installation of new aircraft parking and storage facilities. The benefits would include improvements to water flow and quality in Duck Creek, and easier fish passage. Duck Creek currently dewaterers regularly, and relocation will provide an opportunity for a lined channel that will retain discharge and reduce groundwater inputs with high iron content. Moving the outlet north will reduce the hazard that exists currently with the mouth essentially directly west of runway 08. Transport function will be improved for salmonids by reducing dewatering with a lined channel.
107	The decision to destroy the floatplane pond fingers should take into account community values (i.e. enjoyment of dike trail), not just value of fill material.	FAA acknowledges that dredging or filling of the floatplane pond fingers would have a negative impact on recreational uses of the Dike trail. These impacts are discussed in Section 4.8.2.2 of the FEIS.
108	Given there is little need for RSA to begin with, 600 feet is just as satisfactory as 1000 feet, and we see no reason not to accept the compromise put forth by Airport Board. We can wait until the EMAS technology is proven to work in Cordova.	Thank you for your comment. Refer to response to Comment No. 206. The Airport Board's original compromise would result in non-standard safety areas that would not provide a level of safety equivalent to the EMAS alternative. JNU has a need to establish safety areas. This has recently been made a requirement by Congress. Since the publication of the DEIS, both the Airport and the FAA have offered modified RSA proposals (RSA-5D, RSA-5E, and RSA-6D) that are evaluated in the FEIS.

Table M-2. Summary of DEIS Comments and FAA Responses, continued

#	Comment Summary/Excerpt	Response
108	<i>(continuation of response to comment)</i>	In December 2006, Congress enacted Public Law 109-433 (Section 10), which requires that the Secretary of the U.S. Department of Transportation select the RSA alternative that is the least expensive but still meets FAA standards and does not shorten the useable runway length. This legislation requires selection of an RSA alternative based on cost, runway length, and FAA standards, and not the level of environmental impact. EMAS technology is more expensive than traditional fill. As such, RSA alternatives using EMAS (such as RSA-6A, RSA-6B, and RSA-6C) may not be selected in the Record of Decision.
109	Legislation was enacted which precludes operators from declaring less than actual paved distance to comply with RSA standards. Alaska is the only state to which this restriction applies.	We concur. See Section 2.2.2.4 and Public Law Section 502 Runway Safety Standards, Vision 100 - Century of Aviation Reauthorization Act, 12/12/03.
110	There is little need for an RSA at JNU. There has never been an overrun while a plane has been landing at JNU. The runway is 2000 feet longer than the distance needed for any craft to land at JNU (except for a 737-900, which is not currently scheduled for use).	The FAA has established a minimum level of safety standards that must be provided to the traveling public at Part 139 certificated airports. These criteria are wide ranging, but most are derived in applications of safety enhancement. See Sections 1.4.1 concerning the need for safety areas at JNU, including a summary of accident history. Section 1.3.6 describes the current and anticipated fleet mix at JNU relative to runway takeoff and landing needs.
111	There does not appear to have been any meaningful attempt to consider how to either avoid or minimize the footprint of the building, nor to configure airport activities to retain wetland values as required by Section 404 of CWA.	A thorough review of the Sponsor's proposal for construction of a SREF was performed independently by the FAA. An effort was made to assure that impacts were minimized by removing duplicate use areas, removing areas to temporarily park trailers, correct area calculation errors, and ensure that all space needs were justified. The FAA acknowledges that some wetlands and habitat would be impacted by the preferred alternative; however, this site has fewer environmental impacts than most other sites evaluated. This site is the most operationally efficient location when considered in the context of the development of all needed airport facilities, and FAA believes it represents the least environmentally damaging practicable alternative. FAA's approach to this issue is consistent with FAA Advisory Circulars 150/5200-30A, 150/5200-20, and 150/5200-18.



Table M-2. Summary of DEIS Comments and FAA Responses, continued

#	Comment Summary/Excerpt	Response
112	The option to address the wildlife hazards of the finger of the Float Plane Pond should be filling, not dredging, to discourage birds of concern. It can only be dredging to obtain fill for use in construction, since it is possible that little will be gained safety-wise.	Dredging, while not as an effective method for reducing waterfowl habitat as filling, would serve the dual purpose of providing fill material and reducing habitat use by dabbling ducks. In the Floatplane Pond, dabbling ducks feed primarily in shallow-water habitats dominated by ditch grass ( <i>Ruppia maritima</i> ). Ditch grass is not known to occur in water greater than 4.5-meters deep (USGS 2003). Thus, dredging areas containing ditch grass should be an effective means of reducing habitat quality for and use by dabbling ducks and other water birds (e.g. shorebirds, wading birds) associated with shallow-water environments.
113	There are reports that hazing done to date is counterproductive and possibly even dangerous. In response to hazing, birds have flown across the runway, and could have intercepted aircraft.	If hazing is conducted by trained personnel, the wildlife hazards to aircraft will be reduced. Hazing should always be done in coordination with the tower. Further, hazing has been demonstrated as an effective tool for dispersing birds from airports worldwide.
114	The Airport should terminate waterfowl hunting, especially with decoys. Drawing ducks in with decoys and then putting them into a panicked flight by shooting at them is absolutely contrary to the need to reduce waterfowl-aircraft interactions at JNU.	Please, see response to Comment No. 32. Hunting programs for wildlife control must be carefully coordinated and controlled through the air traffic control tower. Uncontrolled hunting may actually increase bird strike risk. Consequently, eliminating the on-Airport hunting program has been included as a component of Alternative WH-3 and is recommended by FAA.
115	Removal of the trees in the floatplane pond may be counterproductive. Trees appear to be a barrier to geese that might otherwise fly across the runway.	Trees may appear to be a barrier to geese, but we are not aware of any data have been collected at JNU or anywhere else that support this claim. Regardless, complete removal of trees within the Floatplane Pond Woodland is no longer a component of any of the wildlife hazard management alternatives. Thinning is not included in FAA's preferred alternative in the DEIS.
116	Trees provide a place for eagles to perch that might otherwise fly from perches on the other side of the runway. They may also act as a deterrent to geese.	Management of crows includes a phased approach which includes nest removal, active harassment. Removal of all trees may result in foraging activities of raptors and may actually increase bird hazards. While trees may appear to be a barrier to bird movement, there are no data to support these observations which are generally taken from the ground where observations themselves are limited by the trees. Radar studies across the nation have never shown trees to be a significant "barrier" to bird movements. Thinning is not included in FAA's preferred alternative in the DEIS.
117	Closed conifer forest is the least attractive habitat with respect to birds of concern (Carstensen and Armstrong, 2004).	A closed conifer forest is less attractive to most of the species of concern. The opening of the understory was only recommended to reduce habitat for deer. If an appropriate security fence is installed, the understory should remain as it is.

Table M-2. Summary of DEIS Comments and FAAResponses, continued

#	Comment Summary/Excerpt	Response
118	Tree removal improves conditions for long tailed voles, in turn attracting raptors and short-eared owls.	FAA concurs that tree removal may improve conditions for voles. In addition to raptors and owls, great blue herons are also attracted to voles.
119	Local expert knowledge will help avoid mistakes in proposed future activities (like the previous cutting of Jordan Creek trees, which increased bird usage). A working group can monitor adaptive management approaches and make sure proposed actions are safe.	Thank you for your comment. FAA believes that a wildlife hazard working group representing Airport, state, and federal officials and community expertise would provide a regular mechanism to review how well the wildlife hazard management program is working and, if necessary, a forum to discuss and recommend improvements. This advisory group would improve communications between the Airport and community, and increase public awareness of the importance of an effective hazard abatement program in providing safe aviation operations at Juneau.
Belcher		
120	If RSAs are mandatory, I want the alternative with the least intrusion and damage to wetlands.	Thank you for your comment. Section 404 of the Clean Water Act requires selection of the least damaging practicable alternative. However, in December 2006, Congress enacted Public Law 109-433 (Section 10), which requires that the Secretary of the U.S. Department of Transportation select the RSA alternative that is the least expensive but still meets FAA standards and does not shorten the useable runway length. This legislation requires selection of an RSA alternative based on cost, runway length, and FAA standards, and not the level of environmental impact.
City and Borough of Juneau		
197	If you go back a few years in the files of the <i>Juneau Empire</i> , you will find this same area on the Mendenhall wetlands [now described as the "jewel in the crown"] described as a mud flats covered with raw sewage. This ...is political language ... it contains elements of fact and elements of emotion.... We reject the language that seeks to politicize this analysis and to restrict our ability to freely look at all aspects of the case.	The environmental analysis in the EIS is objective and documents the functions and values of the Mendenhall wetlands and Refuge habitat.

Table M-2. Summary of DEIS Comments and FAA Responses, continued

#	Comment Summary/Excerpt	Response
198	It is the position of the Airport Board that the DEIS is not forthcoming about the realities of EMAS technology, nor is there in the DEIS any analysis or discussion of the environmental impacts of EMAS itself. It is presented as an accepted technology, but is not scrutinized.	Thank you for your comments. We concur that additional information concerning EMAS, including its use and success at other airports, and history of improvements, is relevant to the EIS and analysis. Please, see changes incorporated in Section 2.2.2.7 of the FEIS. However, the scope of this EIS does not include an evaluation of whether EMAS is an "acceptable" technology. FAA Order 5200.9 provides clear direction to FAA and Sponsors that EMAS provides a level of safety equivalent to standard runway safety area.
199	Not only does EMAS have a high financial cost, but it has a high environmental cost: There needs to be 1.16 billion dollars of activity in the American economy to build 2 EMAS beds, and this needs to be repeated every five to ten years for replacement costs in perpetuity. Consider the ecological implications of this figure and what it takes for this amount of activity: How much electricity is generated by burning coal, gas, or nuclear? How many trees cut to make paper?...etc... EMAS is an indefensible technology from an environmental point of view, which is precisely what the DEIS is about.	Insufficient information is provided in this comment or the letter from which it was extracted to follow how the cost basis is determined.
200	In spite of treating EMAS as a proven technology, the FAA has a current contract with the University of Dayton to study, among other factors, the effects of weather-born moisture on EMAS. This is inspired by field experience, and by the manufacturer's technical requirement to keep EMAS dry. That it is subject to a research project means that EMAS is demonstrably not a proven technology.	Thank you for your comment. It is correct that FAA continues to Sponsor research into EMAS and other technologies that may result in safer aviation operations. However, ongoing research does not imply that EMAS is not a proven technology. For example, FAA continues to Sponsor research on navigational technologies such as GPS avionics that are now used in commercial aircraft, but the ongoing research may result in further technological improvements that could save lives, and also reduce barriers (such as cost) to widespread application.
201	EMAS is presented by the FAA as a technology with a ten-year life in the field. An FAA practicability study conducted at Ketchikan, Alaska, initially concluded that the replacement cycle would have to be five years. Subsequently the five-year number within this document was changed to ten years, a change which the Airport Board believes to be inconsistent with the technical data and inspired by other considerations. This would double the financial basis used in the DEIS. EMAS is not prudent	FAA has determined that EMAS is a feasible technology for use at JNU and provides an equivalent level of safety to traditional fill RSA. However, FAA has also determined through updated cost analysis for the FEIS that Alternatives RSA-6A and -6B, which incorporate EMAS on both runway ends, are not prudent based on cost since these alternatives are approximately 2.5 times the cost of traditional fill RSA alternatives and exceed FAA's \$30 million financial feasibility threshold for runway safety area at JNU.

**Table M-2. Summary of DEIS Comments and FAA Responses, continued**

#	Comment Summary/Excerpt	Response
202	EMAS would initially be installed at the expense of the FAA, but the maintenance, repair in the case of aircraft impact, and replacement would fall to the Airport. These funds will have to be subtracted from a known and finite budget and will be subtracted from those projects which the Airport would otherwise pursue. There is not enough room in the budget for the extra strain, which at the low end starts at around \$100,000 a year and could reach into the millions under adverse situations. EMAS is not prudent or feasible.	Please, see the response to Comment No. 59. Also, the response to Comment No. 254 provides more detail on cost liability in the event of aircraft incursion of EMAS. FAA disagrees with the maintenance budget predictions incorporated into JNU's permit applications that suggest annual costs exceeding \$100,000. Please, see the cost analyses presented in Section 2.6 of the EIS and Appendix A. FAA has determined, however, that Alternatives RSA-6A and -6B, which incorporate EMAS on both runway ends, are not prudent based on cost since these alternatives are approximately 2.5 times the cost of traditional fill RSA alternatives and exceed FAA's \$30 million financial feasibility threshold for runway safety area at JNU.
203	EMAS is an untested technology in the north. The behavior of new materials in the north is not subject to subjective guesswork and cannot be presented as a proven technology on the basis of wishful thinking if it has, in fact, never been here. Given other examples of other materials tested down south that failed miserably here. We were given three examples of EMAS success. Three samples is beneath statistical analysis and does not constitute evidence.	The comment provides no representative, comparable examples of "other materials tested down south that failed miserably here." As noted in other comment responses, a number of airports use EMAS and it has demonstrated ability to function as required in humid climates experiencing extreme temperature fluctuations even greater than Juneau's. See the response to Comment No. 64.
204	We find the advocacy position of the FAA to be disconcerting and have the characteristic of a red flag. That the FAA is promoting a technology over which they have decision authority is a conflict of interest. That the decision is based on the DEIS over which the FAA also had management authority makes the water quite deep indeed.	Please, refer to the response to Comment No. 200. It is correct that FAA continues to accept and endorse use of EMAS and other technologies that may result in safer aviation operations. There is no conflict of interest in FAA advocating use of safety technology in which the agency had a part in developing. FAA's mission includes promoting aviation safety.
205	RESOLUTION NO. 2005-01 declares EMAS in its present form and at its present cost is an unacceptable and unworkable alternative to runway safety requirements at JNU and is neither prudent nor feasible.	Thank you for your comment. FAA has determined that EMAS "provides a level of safety that is generally equivalent to a full RSA constructed to the standards of AC 150/5300-13 for overruns"(FAA Order 5200.9), as well as "provides an acceptable of safety for undershoots". FAA has determined, however, that Alternatives RSA-6A and -6B, which incorporate EMAS on both runway ends, are not prudent based on cost since these alternatives are approximately 2.5 times the cost of traditional fill RSA alternatives and exceed FAA's \$30 million financial feasibility threshold for runway safety area at JNU.

**Table M-2. Summary of DEIS Comments and FAA Responses, continued**

#	Comment Summary/Excerpt	Response
206	<p>As a consequence of the resolution passed on June 8, 2005, an alternative RSA solution was proposed by the Board. The alternative solution is to build the footprint shown in RSA-6A, RSA-6B, or RSA-6C as depicted in the DEIS, exactly as if preparing for EMAS, but substituting a level filled area for the EMAS bed. This configuration would remain in place as a shortened traditional RSA. When EMAS has been installed in a temperate rainforest environment and has survived as a successful technology for a period of five years, EMAS could then be reconsidered for installation on the existing footprint at JNU. If for technical, financial, or other reasons EMAS is not successful in a temperate rainforest environment, the RSAs for runways 26 and 08 can then be lengthened to the traditional length.</p>	<p>FAA understands the Airport Board's proposal. However, the Airport Board's proposal does not meet FAA RSA standards. FAA has determined that EMAS "provides a level of safety that is generally equivalent to a full RSA constructed to the standards of AC 150/5300-13 for overruns" (FAA Order 5200.9). FAA has determined, however, that Alternatives RSA-6A and -6B, which incorporate EMAS on both runway ends, are not prudent based on cost since these alternatives are approximately 2.5 times the cost of traditional fill RSA alternatives and exceed FAA's \$30 million financial feasibility threshold for runway safety area at JNU. Since the issuance of the Draft EIS, both the Airport and the FAA have offered modified RSA proposals (RSA-5D, RSA-5E, and RSA-6D) that meet FAA RSA standards and that are analyzed in the Final EIS. In December 2006, the U.S. Congress passed Public Law 109-433 (Section 10) which requires that the U.S. Secretary of Transportation to select as the preferred RSA alternative that alternative which has the lowest overall cost, does not shorten the useable length of the runway, and meets FAA standards. The EMAS alternatives evaluated in the EIS are more costly than those alternatives using traditional RSA fill. Therefore, the FAA cannot select Alternative RSA-6A, -6B, or -6C as the preferred RSA alternative.</p>
207	<p>We have a concern with the proposed development in the Northwest Area with the Duck Creek relocation. Moving Duck Creek to the north side of the airport boundary is logical and possibly the best solution. The size of the corridor for the stream as shown in Figure 2-31 on page 2-169 of Chapter Two seems excessive, as it has a minimum of 82 feet and a maximum of 330 feet. When the Duck Creek corridor south of Egan Drive at the Loop Road turnoff was recently constructed, it was designed and built to a width and depth that is substantially less than these proposals and seems adequate. Given that Duck Creek is essentially dewatered in normal weather conditions, a reduced corridor may well be 'adequate' for both environmental concerns and the maximum use of airport property for aviation purposes.</p>	<p>The two projects are dissimilar, as has been relayed to JNU and CBJ staff on numerous occasions. ADOT&amp;PF did not own property beyond easement and as a result, the project was approved with the resulting stream widths that do not meet CBJ codes (because additional property was not available). Duck Creek cannot be moved to the further north to the Airport Boundary than is depicted in Figure 2-31 of the DEIS (Figure 2-38 of the FEIS) without water quality impacts from the Juneau wastewater treatment plant mixing zone. Also, Duck Creek provides floodplain and habitat functions regulatory agencies have asked to maintain and improve. Finally, there is no demonstrated need for the additional property that could be provided.</p>
208	<p>The current sand and chemical shed is in violation of a number of codes and standards and is allowed to stand by the state and city inspectors only because there is no alternative for sand and de-icing compounds which are essential to airfield operations.</p>	<p>We concur that the facilities for storage of sand and airport chemicals are deficient, and that there is a demonstrated need for a new SREF. Please, see Section 1.4.3.1.</p>

**Table M-2.** Summary of DEIS Comments and FAA Responses, continued

#	Comment Summary/Excerpt	Response
209	The FAA has repeatedly reminded the JNU Board that an adequate storage facility is critical to protect the public investment in equipment, which at the airport is valued at more than \$6.5 million.	We concur. Please, see the responses to other comments on the SREF facility, as well as Section 1.4.3.1 of the EIS, which clearly indicates that the current storage facility is inadequate to meet existing needs and to provide adequate housing for sensitive and expensive equipment.
210	The Airport Board favors the Fuel Farm 1 option. Under this development option, refueling operations take less time, require less travel distance, involve fewer security checks, and increase safety by removing fuel trucks from public streets. The Board is quite emphatic in its opposition to FF-2. Basically the risk analysis of buried pipelines does not stand up to the 'prudent and feasible' standard as the buried lines cannot be designed to accommodate all users and suppliers, are difficult to install, impossible to maintain, and are prone to contamination and leak problem. It is an obsolete technology with twice the cost.	The FAA concurs that construction and use of a new fuel farm access road (alternative FF-1) is preferred, for the reasons noted in this comment as those described in Section 2.13.5. However, FAA disagrees that alternative FF-2, the use of pipeline, is not prudent and feasible. The pipeline system could easily be designed to accommodate all users and suppliers, they are easy to install and maintain, and they are not an "obsolete" technology. We concur with the assessment that alternative FF-2 would cost roughly twice as much to install as alternative FF-1, and that leaks from a buried pipeline could have serious, long term environmental impacts on water resources.
211	The DEIS does not adequately address the wildlife hazards at JNU. This inadequate analysis leads to a flawed decision-making process for basing alternatives to manage wildlife hazards. We believe this flawed process not only makes it more difficult to effectively manage wildlife hazards, but that it also gives the Juneau public inadequate information from which to understand the safety risks posed by all wildlife that frequents the airport.	The DEIS includes a review of work conducted by USDA following a year-long assessment at JNU. The study provided reasonable information for development of a wildlife hazard management plan. The review simply used the national experience to rank the species of concern and their associated habitats relative to aircraft movement areas. The WHA and WHMP at JNU was accepted by the FAA certification inspectors and approved for implementation using FAA standards. FAA is confident that the EIS provides an adequate analysis and full disclosure to the public the safety concerns associated with wildlife hazards at the Airport.
212	The DEIS implies, repeatedly, that an increase in active wildlife control measures to offset the lack of habitat modification is an equal exchange that would maintain risks at an acceptable level. This concept is inconsistent with a sound understanding of wildlife hazard management, which like conventional wildlife management, is rooted in habitat management. In wildlife hazard management, first look at habitat management, then exclusion, repulsion, and as a last resort, removal. In general, "active wildlife hazard control methods" should NOT be considered an acceptable substitute for eliminating attractive habitat. (Page 2-77). However, in the DEIS on page 2-106, the grouping of alternatives into actions may leave some reviewers with the impression that wildlife hazards can be effectively reduced with either alternative. This is not the case.	Wildlife hazard management at airports worldwide includes both habitat management initiatives and active control programs. The balance between these methods is highly dynamic across the nation and on any given airport. Please, also see the response to Comment No. 6.

**Table M-2.** Summary of DEIS Comments and FAA Responses, continued

#	Comment Summary/Excerpt	Response
213	<p>There are several conceptual and mathematical flaws in the Risk Matrix, echoed by comments of bird strike specialists. According to paragraph 3, on page 2-98 "this approach has been reviewed by an international group...all of whom generally agreed that it was an appropriate methodology...". The Airport Board disagrees that the reviewers thought that the Risk Matrix approach, as presented, is appropriate for this EIS and urge further review of their comments as presented in Appendix B.</p>	<p>There are no mathematical flaws in the model. The model is based upon several assumptions that are clearly defined and the mathematics are simple arithmetic functions carried out in a spreadsheet format. The table (2-10) only lists those species whose risk calculation was 1 or higher; all species that had been observed during the USDA surveys were processed through the model. Runway crossing data were not provided by the USDA and as such could not be used in developing a risk model. The model was not developed to predict strikes, nor was it developed to be used in a vacuum. The model, however, does rate the potential risk associated with crows as lower than many other species due to the relatively low numbers that have been struck nationwide, and the relatively low damage incurred when such strikes are reported. The two strikes with northwest crows reported since the model was developed are not inconsistent with the model.</p> <p>While all reviewers point to concerns with this model approach, none indicated that the model was inappropriate, nor did any offer an alternative model that could be implemented with the available data at JNU. The EIS clearly demonstrates that FAA did not disregard the reviewers comments, and the DEIS (Section 2.5.4 and Appendix B) acknowledges the model anomalies. The risk assessment model developed for the DEIS was just one tool the FAA used to evaluate WH alternatives. FAA also relied upon surveys of other airports, consultation with wildlife management professionals, including USDA, the analysis and recommendations contained in the USDA's wildlife hazard assessment, and input from airport staff.</p>

**Table M-2. Summary of DEIS Comments and FAA Responses, continued**

#	Comment Summary/Excerpt	Response
214	<p>The best way to measure "strike proneness" is to do a Runway Count (make a count of birds moving through the operational airspace). These surveys were conducted and published during the Juneau International Airport Wildlife Hazard Assessment but were excluded from the risk matrix in favor of the Point Count Surveys because the authors of the model felt that this portion of the data "appeared to be more robust." This decision was made in spite of knowledgeable advice to the contrary. Of the point count data, species were left out of Table 2-10 in spite of their proportional significance. Altogether only 21 of the 58 species identified in the WHA were included in the Risk Matrix. There are other problems as pointed out by Dr. DeFusco concerning the risk matrix in Juneau. The damage values of 1, 5, and 10 appear to be arbitrary for low, moderate, and severe aircraft damage, but these values significantly affect the overall Risk with Relative Penalty.</p>	<p>Please see responses to Comment No. 127. The damage values were not arbitrary but provided a numerical value for damage levels. A 10 was given to any strike that was listed as \$10,000 or more, a 5 was assigned to a strike that resulted in reported damage over \$1000, and a 1 was assigned to strikes that reported damage, but either failed to report an amount or was less than \$1,000. This added to the penalty added to a species that had a strike history at JNU.</p>
215	<p>The "Safety Zone Factor" presented in Table 2-11 appears to be arbitrarily derived. 3 years have passed since development of the model, and there is additional data to help evaluate the value of the Risk Matrix. Of the 17 additional wildlife strikes occurring since the study, 4 involved species not even listed in the Table 2-10 Risk Matrix, and 6 others involved an unidentified species. Two of the 17 strikes involved the northwestern crow, the second most commonly observed bird crossing the runway during the Wildlife Hazard Assessment. Inadequate data often results in poor assumptions, which leads to poor predictions. Selective data sets (also know as "cherry picking the data") may result in erroneous conclusions at best and dangerous conclusions at worst. A bad model should never trump the on-the-ground experience of JNU's staff.</p>	<p>Safety Zones are not arbitrary but are aligned with areas where aircraft movements are most critical and are based on distances from the paved runway and the float pond. This should be intuitive to wildlife hazard professionals and obvious from the presentation shown in Figure 2-18 of the DEIS (Figure 2-21 of the FEIS). The USDA was unable to provide the runway crossing data for analysis. FAA concurs there is additional data that can be reviewed and, if necessary, incorporated into the model. However, the EIS uses the same data considered in the WHA, upon which CBJ and JNU have derived their proposed WHMP. In fact, some of the EIS's conclusions are reflected in the WHA, however they are not included in the Sponsor's wildlife hazard management program</p>
216	<p>The Airport Board will consider the creation of a Wildlife Hazard Advisory Group (WHAG) to bring to the Board appropriate management measures for reducing wildlife hazards at JNU. The WHAG would be chaired by a member of the Board and include local wildlife and habitat experts, airport staff, and interested members of the public. The purpose of the WHAG would be to bring to the public process advice on the best methodology for reducing wildlife hazards at JNU, including habitat modifications described in Alternative WH-1 in the DEIS, hunting, and the effectiveness of hazing.</p>	<p>Thank you for your comment. FAA appreciates the Airport Board's recognition of the value that such an advisory group as described in the comment would bring to both wildlife hazard management at the Airport as well as community involvement and understanding.</p>



**Table M-2. Summary of DEIS Comments and FAA Responses, continued**

#	Comment Summary/Excerpt	Response
217	<p>On a late winter evening, there is absolutely nothing like a set of lights to guide a pilot onto an airfield that used to be basically invisible in the dark. Based on a review of available technologies the conclusion was that only one action alternative, the Proposed Action to install MALSR for runway 26 was found to meet the purpose and need. The Board feels the footprint of this technology on the wetlands is so small that the tradeoff with environmental intrusion is a non-issue.</p>	<p>Thank you for your comment. FAA concurs that the footprint from installation of a MALSR and access road would have a relatively small negative impact on wetlands and habitat, and that the benefits of this technology to aviation safety are clear.</p>
218	<p>Safety and operational impacts and issues that might arise during construction and that can reasonably be foreseen for various projects and alternatives must be considered. This is especially true of RSA alternatives where much of the work will be done on or near the runway. These potential impacts should be considered in the selection of alternatives. This may occur in more detail later in the DEIS. If so, it should be mentioned here and referenced for the reader to easily locate.</p>	<p>Sections 4.3 through 4.9 of the EIS provide the analysis of potential environmental impacts associated with the proposed actions and alternatives. These impacts include short-term, typically construction-related impacts. As noted in Section 2.6.1.3, construction of the RSA would comply with FAA Advisory Circulars for construction (150/5370-10) and safety (150/5370-2E). Operational capability would be further reduced when the existing Jordan Creek culvert under the runway is replaced during a runway reconstruction, as is acknowledged in the EIS. For this reason, FAA recommends (and resources agencies agree) that arch culverts not be installed until the next runway rehabilitation project, when the runway will be closed anyway. Maintenance of safety will require additional effort during construction.</p>
219	<p>For all alternatives of the RSA discussion, consideration should be given to movement of thresholds in increments that minimize work necessary for re-establishment of the west end MALSR. While some deviation from standard spacing is allowed, threshold movement of, for example 188 feet (RSA-6A) or 618 feet (RSA-5C) may exceed the allowable tolerance. Conversely, threshold movement of 200 feet (RSA-6A) or 600 feet (RSA-5C) would have minimal affect on the RSA alternative but could realize a significant savings in project cost by eliminating the need to relocate all fixtures but instead possibly only need installation of a small number in the gap created by moving the threshold.</p>	<p>The spacing tolerances of individual light fixtures within the MALSR was considered and evaluated during the development of the RSA alternatives. In accordance with the guidance specified in FAA Order 6850.2A, entitled <i>Visual Guidance Lighting Systems</i>, the plus or minus 20-foot spacing tolerance that is permitted within the light stations would not be adequate to accommodate the specified threshold displacements of 446 feet for RSA-5C, as a consequence, the entire Runway 08 approach MALSR would have to be relocated to the appropriate spacing. The threshold modification of 188-feet for RSA-6A would entail only relatively minor modification. Minor modifications would be needed for the other alternatives to place lights within the RSA and/or EMAS. The actual placement/location of the light stations would be determined during final design/layout of the MALSR.</p>

**Table M-2. Summary of DEIS Comments and FAA Responses, continued**

#	Comment Summary/Excerpt	Response
220	<p>Consideration must be given to the combined affects that may be gained through overlapping of project areas. This is especially significant on the west end of the runway where fill could do double duty in certain RSA alternatives and in wildlife hazard reduction. This may also occur with certain activities in the NW quadrant. This also applies to the removal of wildlife habitat on the east end of the runway with RSA alternative RSA-5C.</p>	<p>FAA agrees that the projects described in the EIS, while having independent utility, must also be considered for synergistic impacts as well as benefits. The analysis in Chapter 5 evaluates the impacts of the projects in combination, and throughout the EIS references are made to the overlapping benefits provided by some actions (such as those mentioned in the comment).</p>
221	<p>This DEIS carries forward EMAS alternatives as “prudent” and “feasible.” While it is questionable whether these alternatives are feasible, given potential disruptions to operations for installation, inspection, and possible replacement, it is hard to justify them as prudent. Prudent is defined using words like “judicious,” or “exercising sound judgment,” or “not extravagant.” An alternative that is 2 to 4 times more expensive than another does not fall into the “prudent” classification. This is especially true given the reasons for its possible choice over the less expensive alternative and in a climate of dwindling and less available federal grant dollars.</p>	<p>FAA disagrees with the comment. The descriptions in Sections 2.2 and 2.6 and cost analysis presented in the EIS demonstrate that the RSA action alternatives are feasible. As described in Section 2.1, cost was only used to eliminate an alternative from detailed evaluation when it was estimated to be many times higher than other alternatives. The most expensive EMAS alternative is estimated to have a 20-year lifecycle cost of about 2.5 times that of the traditional fill RSA alternatives. Additionally, the 20-year life cycle cost estimate for Alternatives RSA-6A and -6B, which incorporate EMAS on both runway ends, exceed FAA’s \$30 million financial feasibility threshold for runway safety area at JNU. FAA has determined therefore, that alternatives RSA-6A and RSA-6B are not prudent based on cost.</p>
222	<p>Page ES-19, Section 2.1.2, paragraph 1: The displacement of the threshold 618 feet to the east does not achieve RSA standards through use of declared distances. This misstates the alternative. This whole paragraph is confusing due to poor wording.</p>	<p>We concur the text is confusing. Following the 2nd sentence, the paragraph will be revised as follows: "The location of the Runway 08 landing threshold would be displaced 446 feet to the east to achieve RSA standards through the implementation of declared distances criteria. The Runway 08 MALSR leading to the west end approach would also have to be relocated east approximately 446 feet because of the threshold shift to the east. Departures on Runway 08 would begin takeoff roll at the existing threshold location. To meet RSA standards on the Runway 26 end, the Runway 26 threshold would be relocated 446 feet to the east. To enable aircraft to taxi to and from the new Runway 26 threshold, the parallel taxiway would also be extended an equivalent length."</p>
223	<p>Page ES-20, Section 2.1.3, paragraph 3: If the Departure threshold for Runway 26 is displaced 188 feet, doesn't this imply a shortened runway?</p>	<p>The Runway 26 departure threshold is not being displaced to the west, it is being extended/repositioned by 188 feet to the east. From the standpoint of runway operational length, the Landing Distance Available for both Runway 08 and 26 would be maintained at 8,456 feet. However, the Take-off Runway Available (TORA), Take-off Distance Available (TODA), and Accelerate Stop Distance Available (ASDA) for each runway would be increased by 188 feet to 8,644 feet.</p>

Table M-2. Summary of DEIS Comments and FAA Responses, continued

#	Comment Summary/Excerpt	Response
224	Page ES-23, Section 2.2.1: This paragraph ignores the increased safety that would be obtained even if minimums weren't changed.	FAA disagrees with the comment. The paragraph cited in Section ES.2.2.1 clearly notes the positive safety benefit the MALSR would have for all aircraft approaching JNU from the east at night and during poor weather.
225	Page ES-29, Section 2.3.3.1, 2nd paragraph: The new fuel farm road would not intersect with Alex Holden Way as stated in line 9.	FAA concurs with the comment. The reference has been changed to the intersection with an unnamed Airport service road.
226	Page ES-30, Section 2.3.3.2, paragraph 6: This understates considerably the CBJ objection to the alternative.	There have been numerous opportunities at public meetings and in the administrative record for CBJ to present objections to the fuel farm pipeline, including through this comment record. The EIS presents an even, objective presentation of benefits and drawbacks that is not associated with any particular proponent or opponent.
227	Page ES-31, Section 2.4, paragraphs 2 and 3: This needs to more clearly spell out that the Airport management has the authority for active wildlife management versus habitat changes. This also needs to more clearly spell out the role of the Record of Decision at the end of the NEPA process in this management authority.	FAA disagrees with the comment. Paragraph 3 of the referenced Section clearly states that the "...ability and authority to make adjustments..." is vested in the Airport Manager..." Refer to the response to Comment No. 140.
228	Page ES-41, Section 2.6.6, last paragraph: The last paragraph, last 3 bullets should not be included here. The EIS is not the place to mandate changes to the WHMP. This should be done outside the NEPA process, through the WHMP approval process. To tie WHMP activity and active management to the FEIS/ROD sets a bad precedent and potentially restricts an airport manager's ability to respond to the dynamic nature of wildlife management. To what level of management is NEPA guidance going to be applied?	FAA disagrees with the comments. The EIS documents why the habitat modifications proposed in the WHMP are subject to NEPA analysis; because of the potential for significant environmental impacts, an EIS is the appropriate document to evaluate the proposed actions and alternatives. The last 3 bullets in the Section referenced are not mandated changes to the WHMP. Rather, as stated in the EIS, they are recommended changes. Nothing in this EIS "restricts" an airport manager's ability to respond to the dynamic nature of wildlife management.
229	Page ES-53, Section 3.3.1, paragraph 4: This paragraph overstates the impacts to wetlands in the Refuge. Why is it significant? This is inconsistent with the Refuge Management Plan. It ignores the changing nature of the Refuge and lands within the Refuge.	FAA has reviewed the summary of wetland impacts referred to in the comment and stands by the presentation. We concur that such impacts would be inconsistent with the management requirements for the Refuge. The EIS does not ignore changes within the Refuge; for example, isotatic rebound and potential effects to the area are described in Section 3.5.2.7 and various relevant Sections of the impact analysis (Chapter 4) and cumulative effects analysis (Chapter 5).
230	Page ES-53, Section 3.3.1, paragraph 5: Visual changes to the east are not significant. There is no basis for or analysis supporting the statement that they are.	The analysis supporting this conclusion is included in Sections 4.3.12 and 4.4.12 and demonstrates that the visual impacts are not significant.

**Table M-2.** Summary of DEIS Comments and FAA Responses, continued

#	Comment Summary/Excerpt	Response
231	Page ES-53, Section 3.3.1, paragraph 6: This ignores the CBJ challenges to the 4(f) designation. This should be stated here to allow airing of the Sponsor's position.	This comment response summary serves to disclose CBJ's concerns with FAA's determination of Section 4(f) properties. The FAA has considered and addressed the Sponsor's comments on FAA's determination that the Refuge is subject to DOT Section 4(f). While CBJ may disagree with FAA's determination, it is FAA that has to make the determination not CBJ.
232	Page ES-54, Sect 3.3.3, paragraph 2: There needs to be more clarity in describing the EFH lost to the two alternatives and more description as to why it is considered EFH at all. If this occurs later in the document, it should be referenced.	The description of EFH lost as a result of the two SREF alternatives is adequate for the Executive Summary Section of the EIS. For more detail concerning how EFH is defined refer to Section 3.9.6 of the Draft EIS. Impacts to EFH resulting from the two SREF alternatives are detailed in Section 4.5.9
233	ES-60.Sect 3.3.3, para 2 There is no indirect impact to 4(f) either, just as there is no direct impact.	Thank you for your comment. The text refers to "constructive use" impacts in accordance with the requirements of Section 4(f).
234	Page ES-60, Section 3.3.4, paragraph 2: During the EIS development, JNU/CBJ staff were told the size of the channel was necessary to have the same surface water flows and flood storage as currently exists. This paragraph says it is providing more and better. The size of the channel should be reduced in final design so as to not create more and better but to instead maintain the existing condition. This larger channel is creating more habitat than necessary and increases the wildlife habitat and hazard.	As written the paragraph in question in Section 3.3.4 compares the two alternatives to each other and not to existing conditions i.e. FW/RW-2 would have better flood storage than FW/RW-1. In the FW/RW-2 alternative proposed channel width and depth are based on geomorphic field analysis conducted in September 2001. The channel length was decreased and channel slope increased for transport functions not habitat functions. Habitat area will be less than existing conditions. Maintenance of flood storage and flow is clearly desirable and such environmental enhancement is a necessary form of mitigation when altering natural systems. The types of vegetation proposed for Duck Creek corridor should reduce wildlife hazards from existing conditions based on the species likely to be attracted and take residence. Additionally, the relocation and conceptual design of the mouth of Duck Creek are consistent with recommendation of the WHMP.
235	Page ES-67, Table ES-13: WH-3 totally ignores the impacts that increased hazing and taking (killing) of birds and mammals may require. This is a negative impact to more active management that makes habitat modification more attractive.	The primary impact of active management is that it causes wildlife to move away from the airfield, the very objective for which it is undertaken. Habitat modification may or may not meet long-term hazard management objectives. Please, also see the response to Comment No. 69.

**Table M-2.** Summary of DEIS Comments and FAAResponses, continued

#	Comment Summary/Excerpt	Response
236	<p>Page ES-74, Section 4.1.3, paragraph 1: The last sentence makes an (apparently) unsubstantiated claim about "more difficult passage for fish." If there is analysis in the DEIS that supports this, it should be referenced. If there is no analysis for this it should be removed and not considered.</p>	<p>The paragraph attributes the more difficult fish passage to the "approximately 300 additional feet of culvert". The new culvert length would be 770 feet, or a more than 60 percent increase in length over the existing condition of two culverts totaling 470 feet. The fisheries experts at the resource agencies such as ADF&amp;G and NMFS concur that increasing the length of closed culvert will create more difficult conditions for fish passage, due to the need for sustained bursts of swimming speed and a lack of resting locations. Numerous scientific papers (e.g., NMFS 2004; Kahler and Quinne 1998; Robinson, Mirati, and Allen 1999; and Washington Department of Fish and Game 2003) have examined the issue of fish passage in culverts and help form the basis of the analysis contained in the EIS.</p>
237	<p>Page ES-75, Section 4.1.3, paragraph 4: The discussion understates the complications and implications that runway closure and taxiway-as-runway operations will have while trying to accomplish the culvert work.</p>	<p>JNU successfully dealt with runway closures and use of a taxiway as runway during rehabilitation or other major runway projects. Operational considerations for alternatives are discussed in Sections 2.2.2.1, 2.6.3.1, 2.6.4.1, 2.6.5.1, 2.6.6.1, 2.6.7.1, 2.6.8.1, 2.6.9.1, and 2.6.10.1 of the FEIS.</p>
238	<p>Page ES-75, Section 4.1.4, paragraph 2: The second sentence states RSA alternatives RSA-1 and RSA-6C were used for comparison. Alternative RSA -5C should have been analyzed as well since this is the most challenging and costly and is the JNU proposed action. To not analyze alternative in this context is not providing the public adequate information for their analysis.</p>	<p>We concur that additional analysis is necessary to reflect the potential disturbance areas for the alternatives. Please, see revised Sections ES.4.1.4 and 2.11.4.</p>
239	<p>Page ES 75-6, Section 4.1.4.1: The last sentence of this paragraph needs much more explanation for clarification and understanding. Also, the dimensions here need clarification as to what they represent.</p>	<p>The paragraph referenced is in the executive summary, which by nature does not have the complete description and explanatory text as the EIS. Please, see Sections 2.11 and 2.12 and their subsections of the DEIS for the more detailed information.</p>

**Table M-2.** Summary of DEIS Comments and FAAResponses, continued

#	Comment Summary/Excerpt	Response
240	<p>Page ES 75-6, Section 4.1.4: A fourth and fifth alternative were brought up prior to the publication of the DEIS but were not included. These need to be analyzed and presented. These are: 1) let the sloughs re-establish themselves naturally after construction of the RSA; and 2) improve connections of isolated marsh via the channel that connects this area to the east, thus totally avoiding the East runway slough.</p>	<p>The DEIS in Section 2.11.4 notes that sloughs may “naturally” re-establish without constructed channels, and that this opportunity would be most applicable for RSA alternatives involving relatively little additional fill east of the runway (RSAs -6A and -6B). We also note that the text in Section 2.6.4.2 included the possibility of drainage being altered from a north-south flow to an east-west flow. Additional analysis has been added to the EIS in Sections 2.11 and 4.3.6 concerning JNU’s proposal to connect intertidal areas south of Miller-Honsinger Pond with the Sunny Slough tidal system. However, an important consideration expressed in the EIS is that the most appropriate option for maintaining hydrology east of the RSA will depend on the action selected. Natural realignment may be most appropriate for an EMAS alternative such as RSA-6B with relatively little east runway end disturbance, while construction of a new channel to Sunny Slough could be most appropriate with Alternative RSA-5C. Discussion with state and federal agencies prior to the publication of the FEIS resulted in the FAA deciding to include active relocation of the slough channels on the east runway as an integrated part of all RSA alternatives. For all RSA alternatives except RSA-5C, the channel would be actively reconstructed around the end of the runway to restore the north-south hydrologic connection. For RSA-5C the area north of the runway would be connected through an actively constructed slough channel to Sunny Slough.</p>
241	<p>Page ES-77, Section 4.1.5, paragraph 3: The term “Board Walk” typically brings to mind a pedestrian walkway. This should be more clearly explained that it would need to accommodate vehicle movement and a vehicle turnaround.</p>	<p>This paragraph already notes (see 3) that vehicles would have to drive on the boardwalk. No change is necessary.</p>
242	<p>Page ES-77, Section 4.1.5, paragraphs 6 and 7: This discussion somewhat addresses the MALSR road alignment relative to the RSA alternatives. However, it is incomplete and somewhat inaccurate. Alternative RSA-5C provides the most advantageous synergy with the MALSR as fewer lightpads would be in the wetlands and on RSA fill. Also, less impact to wetlands would occur if one of the two new “East Slough” treatments.</p>	<p>FAA concurs that fewer MALSR lightpads would be placed directly on pillings in the wetlands with Alternatives RSA-1 or -5C, as those alternatives incorporate approximately 1000 feet of RSA within which approach lights would be mounted. The conclusion concerning less impact to wetlands with East Slough is incorrect. Alternative RSA-5C fills 41.8 acres of wetlands (the fourth greatest wetland impact of the RSA alternatives) and has the greatest disturbance area (39.3 acres) per Table 2.13. Diverting slough flows east toward Sunny Point would have wetland impacts from loss of hydrology south of the runway and greatly increase the area within which direct and indirect hydrologic impacts would occur north and east of the runway.</p>

Table M-2. Summary of DEIS Comments and FAA Responses, continued

#	Comment Summary/Excerpt	Response
243	<p>Page 1-12, Section 1.3.2, paragraph 8: This discussion of weather minimums is misleading. It confuses IMC/VMC with IFR/VFR. Because the airport has VMC does not mean an aircraft will be able to find the airport and land. Approach minima for certain public IFR approaches exceed the ceiling and visibility criteria for VFR flight. The 3rd sentence states that 9.9% of the time aircraft could not land at JNU. It may actually be significantly higher than that due to the previously stated relationships between VMC and IFR. The last sentence is misleading. It should say that approximately 149 to 262 hours per year minimums are below that at which Alaska Airlines could land if all other conditions are optimum. Some other Alaska Airlines aircraft may be much more restricted.</p> <p>The whole picture is further clouded by the coincidence of the weather at the time a jet is attempting an approach and landing. Good weather when there is no jet approaching the airport helps one in this context.</p>	<p>We concur that additional clarification would be appropriate. Paragraph five of Section 1.3.2 will be edited as follows: FAA Advisory Circular 150/5060-5, Airport Capacity and Delay, describes three categories of ceiling and visibility minimums for use in both capacity and delay calculations. Visual Flight Rules (VFR) conditions occur whenever the cloud ceiling is at least 1,000 feet above ground level and the visibility is at least three statute miles. Instrument Flight Rules (IFR) conditions occur when the reported cloud ceiling is at least 500 feet, but less than 1,000 feet and/or visibility is at least one statute mile, but less than three statute miles. Poor Visibility and Ceiling (PVC) conditions exist whenever the cloud ceiling is less than 500 feet and/or the visibility is less than one statute mile.</p> <p>However, meteorological data obtained for Juneau International Airport from the National Climatic Data Center for use in this study, has been categorized in more specific terms:</p> <ol style="list-style-type: none"> <li>1. VFR-1 conditions: Ceiling equal to or greater than 1,000 feet above ground level and visibility is equal to or greater than 3 statute miles. These conditions occur at the Airport approximately 94.9% of the time annually.</li> <li>2. VFR-2 conditions: Ceiling equal to or greater than 2,000 feet above ground level and visibility is equal to or greater than 4 statute miles. These conditions occur at the Airport approximately 90.1% of the time annually.</li> <li>3. IFR-1 conditions (Special): Existing VFR-2 minimums to “special” non-precision approach minimums - ceiling less than 2,000 feet and/or visibility less than 4 statute miles, but ceiling equal to or greater than 700 feet and visibility equal to or greater than 1-statute mile. These conditions occur at the Airport approximately 6.9% of the time annually.</li> <li>4. IFR-2 conditions (Special): Existing VFR-2 minimums to non-precision approach minimums - ceiling less than 2,000 feet and/or visibility less than 4 statute miles, but ceiling equal to or greater than 300 feet and visibility equal to or greater than 1-statute mile. These conditions occur at the Airport approximately 8.2% of the time annually.</li> <li>5. Existing below minimums – ceiling less than 300 feet and/or visibility less than 1-statute mile. These conditions occur at the Airport approximately 1.7% of the time annually.</li> <li>6. Potential IFR-3 conditions (Special): VFR-2 minimums to non-precision approach minimums - ceiling less than 2,000 feet and/or visibility less than 4 statute miles, but ceiling equal to or greater than 300 feet and visibility equal to</li> </ol>

Table M-2. Summary of DEIS Comments and FAA Responses, continued

#	Comment Summary/Excerpt	Response
243	<i>(continuation of response to comment)</i>	<p>or greater than 3/4-statute mile. These conditions occur at the Airport approximately 8.4% of the time annually. 7. Potential IFR-4 conditions (Special): VFR-2 minimums to Category I ILS minimums - ceiling less than 2,000 feet and/or visibility less than 4 statute miles, but ceiling equal to or greater than 200 feet and visibility equal to or greater than 1/2-statute mile. These conditions occur at the Airport approximately 8.9% of the time annually. Paragraph five of Section 1.3.2 will be edited as follows: The Airport can be expected to experience VFR conditions approximately 90.1% of the time, and be below minimums approximately 9.9% of the time in consideration of the published "public-use" approaches. Below minimums, indicates the percentage of time that the ceiling or visibility is so reduced that most operators cannot operate at JNU. In consideration of the "special-use" approaches authorized for use by Alaska Airlines, the Airport can be accessed under IFR conditions an additional percentage of time by this user annually ranging from 6.9% to 8.2%, depending on which runway is utilized for landing, and be below minimums between 1.7% and 3.0% of the time annually. As a result, Alaska Airlines has improved its service reliability at JNU by being able to operate about 30 more days per year. However, weather conditions during about 11 days annually, are still so poor (below minimums) that the airline will experience flight cancellations.</p>
244	Page 1-16, Section 1.3.4: The enplanement numbers reported here are not correct. This discussion should use the NCAIS database for total enplanements. The FAA acknowledges the TAF is inaccurate in this area.	Although not directly relevant to the purpose and need for any of the projects in the EIS, ACAIS enplanement numbers will be added to the FEIS as the commenter has requested.
245	Page 1-38; Section 1.5.3.1: There should be more explanation as to why the SREF site increased from 4.5 acres to 6.7 acres.	During preparation of the EIS, it was determined that the SREF layout was insufficient for JNU's snow removal operations. A more detailed design effort was undertaken. One notable difference that increased the area needed was to incorporate snow storage within the layout.
246	Page 1-41, Section 1.6, paragraph 1: This paragraph speaks to the FAA issuing a "single decision that addresses each distinct Purpose and Need." During the development of the DEIS, we spoke often with the FAA regarding the need for severability of projects. This severability is critical; the final decision and Record of Decision must support this.	The paragraph refers to a single decision document that can include decisions for one or more needs while deferring decision on others. The text in the first paragraph of Section 1.6 has been modified for clarification to read: "FAA will consider the proposed actions and alternatives presented in this EIS and issue a single Record of Decision that includes a decision for each of the identified needs."



**Table M-2. Summary of DEIS Comments and FAAResponses, continued**

#	Comment Summary/Excerpt	Response
247	Page 1-42, Section 1.6.1, paragraph 3: This paragraph should address the requirement that the FAA must consult with landowners of potential 4(f) properties to determine if 4(f) even applies. This should be included in the discussion here.	Thank you for your comment. FAA concurs that a change of wording would better reflect the consultation requirements. Please, see Section 1.6.1 of the EIS.
248	Page 1-42, Section 1.6.2: This Section should include discussion about these agencies' obligations to cooperate with wildlife hazard minimization efforts under existing Memoranda of Understanding (MOUs).	The comment does not specify which agencies have MOUs with the Airport for wildlife hazard minimization. Note that USDA-Wildlife Services has been added to this Section as an agency that has provided information for and review of specific Sections in the EIS.
249	Page 1-44, Section 1.6.2.4: This Section should include more clear discussion of the provision under which the Alaska Department of Fish and Game is required to assist the CBJ upon request to fill wetlands for reduction of wildlife hazards. The last sentence of the Section addresses the Management Plan statement to this affect; it is, in fact, a provision of the State law establishing the Refuge. This understates the significance of this provision. Additionally, the Management Plan includes a definition of minimization as it applies to this Plan. This should be included here for completeness and accuracy. This could be attached to the second bullet of the second paragraph.	As stated in Section 1.6.2 (the introduction to cooperating agencies) the purpose is to "...provide a brief description of each cooperating agency's regulatory responsibilities..." Hence, Section 1.6.2.4 cannot fully describe all of the regulatory and statutory elements potentially relevant to the EIS. These elements are typically incorporated into the applicable subsection of the EIS, such as the description of existing conditions (Chapter 3) or evaluation of impacts (Chapter 4). Section 3.2.2.5 already states that ADNDR and ADF&G are to assist CBJ in filling waters next to the Airport runway that are attractants to waterfowl. Similarly, the Refuge Management Plan contains much more information, including definitions of terms, than should be replicated in the EIS. It is not necessary to provide a definition of minimization or other terms. The second bullet accurately presents the criteria from the Refuge Management Plan.
250	Page 1-45, Section 1.6.3: This Section should include the Alaska Department of Natural Resources, Division of Mining, Land and Water, which is the agency that would confer title of land to CBJ in the case of a transfer.	FAA concurs that ADNDR/Division of Mining, Land and Water should be included in this Section as a coordinating and consulting agency. Please, see Section 1.6.3.
251	Page 1-46, Section 1.6.3.4: This should include discussion about the provisions in State law which would allow an outright transfer of tidelands to the CBJ upon application.	FAA consulted with ADNDR/OHMP concerning the information that should be presented in the referenced Section. We concur that a short summary about tidelands transfer process should be included in this Chapter, but it should more appropriately be included with the description of Mining, Land and Water responsibilities (see Comment No. 250).
252	Page 2-38, Section 2.2.2.7, paragraph 1: This paragraph addresses the cold weather testing of EMAS accomplished by the University of Alaska at Fairbanks. The results of the test should be reported here. Also, there should be some discussion of the current planning for replacement of EMAS at 10 year intervals.	Upon further consideration, and as explained in the response to Comment No. 75, FAA determined that the UAF study is not representative of an installed EMAS system. For additional information concerning EMAS replacement, please refer to the response to Comment No. 59.

**Table M-2. Summary of DEIS Comments and FAA Responses, continued**

#	Comment Summary/Excerpt	Response
253	Page 2-38, Section 2.2.2.7, paragraph 4: This paragraph should address the recent JFK incident in which, after damage to surrounding blocks and exposure to the weather, several hundred blocks required replacement due to water damage.	It is reasonable to expect that when the EMAS bed is damaged following the arresting of an aircraft, the undamaged blocks located within and adjacent to the crush zone would be exposed to potential damage by moisture infiltration. Blocks undamaged (away from the crush zone) should not need replacement. Also, see additional information presented in the response to Comment No. 254.
254	Page 2-38, Section 2.2.2.7, paragraph 5: The last sentence states the air carrier's insurance company normally pays. There have been three instances where an air carrier has damaged blocks. In the most recent incident as of the publication date of the DEIS, the air carrier's insurance had yet to pay. With such a small sample size and 33% of the cases not yet going as described, it is a gross assumption to make this statement.	As stated in a June 16, 2005 letter from the FAA to Mayor Botelho, "The airline responsible for damage would typically be held accountable for repairs. However, repair cost can be a contentious issue between air carriers and airports, as it is not unusual for an air carrier to allege mitigating circumstances when their actions have resulted in damage on an airport." Regardless, we agree that it would be beneficial for the Airport to establish or add to an existing contingency fund for such unpredictable events or circumstances. Again, under most all reasonable circumstances, the Airport would not be responsible for funding the cost of the EMAS repair that results from damage by an airline or other aircraft operator.
255	Page 2-40, Section 2.2.2.7, RSA-6B: The second paragraph here talks about moving the float pond access road and fence to the west edge of the new Airport property. It isn't clear from this discussion where this new Airport property comes from and how much of it there is. More clarification would be helpful. This is discussed slightly in the next paragraph; possible realignment of these concepts might help clarify this point.	FAA concurs with the comment that more clarification is needed for some of the RSA alternatives concerning relocation of Airport boundaries, access roads, the fence and Dike Trail. Text in Sections 2.2.2.6 (for alternative RSA-5C) and 2.2.2.7 (for EMAS alternatives) has been modified appropriately.
256	Page 2-43, Section 2.2.2.7, RSA-6C: The same comment (no. 255) as for RSA-6B applies here.	Please, see the response to Comment No. 255.
257	Page 2-45, Section 2.2.2.10, paragraph 2: This paragraph states that only 2 alternatives, RSA-1 and RSA-6C have no impact to operational procedures. While this may be true, Alternative RSA-5C may have impacts, but it could be argued that all impacts are neutral or positive. Therefore, to not choose RSA-5C because it has "some operational impacts" would be short-sighted. Impacts to operational procedures should be evaluated to determine their significance before any given alternative is dismissed on this point.	FAA does not agree that it could be rationally argued that all of the operational impacts from Alternative RSA-5C would be neutral or positive. FAA clearly discloses in the EIS on Table 2-4 that any operational changes incurred by the RSA alternatives carried forward for detailed analysis would be minor. The text in Section 2.2.2.10 clearly articulates the rationale FAA used in determining whether operational impacts would be minor or of sufficient magnitude as to eliminate an alternative from detailed consideration.

Table M-2. Summary of DEIS Comments and FAAResponses, continued

#	Comment Summary/Excerpt	Response
258	<p>Page 2-75, Section 2.4.3.2: Discussion needs to be added to this Section for 1) space limitations and extra space needed for the terminus of the fuel line. This space requirement is significant in an area of limited space; 2) description of the multiple pipes that would be required for multiple fuel types and multiple vendors; 3) expansion beyond the initial installation configuration to accommodate new vendors would be difficult to impossible; 4) there would be significant disruption to fuel supplies in the event of a malfunction or leak; 5) there is strong opposition to this alternative from the Sponsor; and 6) the requirement for an additional fuel transfer point with this alternative. For these reasons, plus the other limitations included in the DEIS, this alternative should not be considered prudent and feasible and therefore not carried forward for further consideration.</p>	<p>Comment points 1, 2, 4, 5 and 6 are addressed in Section 2.8.3.2. There should not be significant disruption to fuel supplies in the event of malfunction or leak, as separate pipes would be dedicated to different vendors and fuel types, and these would be isolated by automatic and manual shut-off systems. In addition, fuel trucks could always travel to the Fuel Farm on public roadway (as is currently done) for short-term relief. There would be no need for an "additional" fuel transfer point. See response to Comment No. 67. A properly designed fuel pipeline system would accommodate future expansion. This alternative is both prudent and feasible.</p>
259	<p>Page 2-78, Section 2.5, paragraph 4: This Section states JNU has permits "that define the methods and manner by which wildlife management takes place." In reality, the permits address a very small portion of the program; they do, however, provide a framework for the program. There is much detail required that is beyond the information in the permits; this detail is in the Sponsor's Wildlife Hazard Management Plan.</p>	<p>Thank you for the clarification. The text in Section 2.5 has been modified to reflect this information.</p>
260	<p>Page 2-96, Section 2.5.3.11: This paragraph mischaracterizes the relationship between habitat modifications and active management. The statement that with active management there are "typically fewer environmental impacts" is unsupported by the discussion and likely without foundation. It might be more accurate to say impacts are different, but it would be misleading to say they are fewer. For example, discharge of propane cannons and cracker shells or killing of wildlife may actually be more of an impact than the cutting of trees or filling of some wetlands. The habitat modification may have a short term negative impact to the environment (if any at all) while negative impacts to active management may continue for extended periods of time.</p>	<p>The impacts of active control are difficult to quantify, while habitat management impacts have more traditional methods of assessment. However, the suggestion that using pyrotechnics to disperse crows may have a greater environmental impact than cutting down a forest of trees would seem unfounded. If active control methods are discontinued, most species return after a period of time. This has been observed world wide with numerous species and is commonly understood by bird control specialists. This would not support the notion that active control may have greater impact than habitat modification. Further, even in areas of extreme habitat modification (such as, for example, filling and paving of wetlands) new species often use the altered habitat and hazard control is still required, albeit at a lesser level of effort.</p>

**Table M-2. Summary of DEIS Comments and FAA Responses, continued**

#	Comment Summary/Excerpt	Response
261	<p>Pages 2-96 &amp; 2-106, Sections 2.5.3.11 and 2.5.5: The last sentence in Section 2.5.3.11 says that one alternative "relies heavily on day-to-day hazard management involving greater use of control methods." Including this in the NEPA process is a risky precedent. This could be construed as setting limits on what active management is allowed, or give the perception that changes to active management are not allowed without further review through the NEPA process. It should also be stated here that adaptive hazard management will continue to be used across the entire lands of the airport now and into the future, regardless of what alternatives are chosen for habitat modification.</p>	<p>FAA disagrees that including the WHMP in the EIS sets a "risky precedent." FAA is merely conforming to federal law concerning actions that could have a potentially significant effect on the human environment. By evaluating the WHMP under the NEPA, FAA is obligated to consider a range of alternatives including those that will eliminate or minimize adverse environmental impacts. The EIS makes clear that changes to wildlife hazard control activities should not need FAA or federal agency review (except for depredation increases; see Section 2.9.3.3). Further, the EIS strongly emphasizes the need for flexibility in wildlife hazard management and authority of the Airport Manager in making changes to an adaptive management system (see Section ES.2.4). Further, the DEIS recommendations related to wildlife hazard control are consistent with USDA's Wildlife Hazard Assessment which recommended improvements to the airport's wildlife hazard control procedures, training, monitoring and record keeping. Refer to response to Comment 140. With respect to adaptive management, FAA is not aware that JNU has implemented such a program, nor have reports been submitted documenting program reviews and adaptations. FAA will continue to work with the Sponsor and USDA in the implementation of the WHMP, including adaptive management.</p>
262	<p>Page 2-117, Section 2.6.4.1, paragraph 2: This paragraph talks about the possibility of operational impacts due to obstructions. These potential problems should have been resolved prior to publication of the DEIS to allow full disclosure for the public to review. It is possible these "potential problems" would have been found to not be problems at all or to have been so significant as to make this alternative less attractive. This question could easily have been answered during the four years of development of the DEIS.</p>	<p>The EIS team coordinated with both Alaska Airlines and FAA Flight Procedures on this. Table 2-4 and Section 2.6.4.1 of the DEIS note that changes in RW thresholds would result in revisions to approach and departure minimums based on the coordination Alaska Airlines and the Flight Procedures Office. It was determined that a new obstruction survey would have to be conducted per FAA Standard 405, in conjunction with the development of the revised special instrument approach procedures (IAPs), to reach a determination on the impacts potential obstructions to approach minimums. The presence of potential obstructions is not a deciding factor in FAA's selection of the preferred alternative, as there is no possibility of obstruction penetration from Alternative RSA-6B. A more detailed study of potential obstructions and operational impacts of RSA alternatives was conducted for the FEIS. The study is provided in Appendix J.</p>
263	<p>Page 2-117, Section 2.6.4.2: This Section should include the same language for operational impacts as that addressed for RSA-6A in paragraph 2.6.5.1 regarding the "improved safety margins." This is a significant point that by omission prevents full evaluation of alternative RSA-5C by the public.</p>	<p>FAA concurs that the presentation should be consistent. Please, see the revised text in Section 2.6.4.1 concerning safety margins for alternative RSA-5C.</p>

**Table M-2. Summary of DEIS Comments and FAA Responses, continued**

#	Comment Summary/Excerpt	Response
264	Page 2-119, Section 2.6.4.2: There should be some discussion in this Section of the possibility of a connection through the slough that runs east towards Sunny Point.	FAA concurs with the comment. Additional analysis has been provided in Section 2.6.4.2 and also in Section 2.11.4.
265	Page 2-196, Section 2.9.3: This Section gives very little credence to the several decades of experience gained by the existing staff at JNU. Adaptive management has been in effect for years. The projects put forward through the WHMP (approved by the FAA) and revised during the development of proposed actions for this DEIS were developed with the full understanding of the adaptive management that has been in effect for years and with the appreciation for the hazards which still remain. Deferring the habitat modification projects which have been put forward as the proposed actions is ignoring the history of wildlife management at JNU. Adaptive management will continue to be used after the proposed projects have been completed.	The USDA wildlife hazard assessment identified improvements to active wildlife hazard management on the airport. The FAA believes that these measures as well as habitat modification are appropriate for the airport to pursue to reduce wildlife hazards, as described in the FAA's preferred alternative in Section 2.13.6 of the EIS.
266	Page 2-199, Section 2.9.3.4, paragraph 3. This paragraph suggests the WHWG should review the Wildlife Control Officer's (WCO) recommendations for changes in control. This is a cumbersome and potentially dangerous process. The WCO must have full freedom to act as he/she sees fit, based on the dynamic situation, and not be constricted by needing to wait for a committee to meet and act as a "clearing house" for actions.	FAA disagrees with the comment. It should not be cumbersome to establish a review committee for recommended changes in wildlife hazard control actions; rather, it would be a prudent independent analysis of the efficacy of such changes. Nothing in the process described in Section 2.9.3.4 would limit the WCO's authority. Further, the comment seems inconsistent with other comments provided by CBJ noting that JNU already has a wildlife hazard advisory group (see Comment No. 319).
267	Page 2-200, Section 2.9.3.5: This discussion seems to place more credence in "anecdotal but unverified reports of recreationists and bird watchers" than in the day-to-day observations of professional, highly experienced Airport operations personnel. There is very likely room for modification and improvement of the hunting program; however, it should be retained, at the option of Airport Management.	The comment is incorrect that more emphasis is placed on users of the Dike Trail, for instance, than on Airport staff. Anecdotal evidence is very useful, however, as witnessed by the Airport Board Chair's example (used during an Assembly meeting) of Airport staff hazing swans on the Float Plane Pond, only to see them fly across the runway. It is difficult to reconcile this and similar descriptions of the experiences of trained operations staff with JNU's defense of a hunting program where hunters are not highly experienced with or professionals in wildlife control. In addition, the data presented in Section 2.5.2 illustrate that JNU does not budget for "highly experienced" personnel to manage the wildlife hazard program. The USDA's WHA recognized this deficiency in the hazard management program at JNU, however, to date the Airport has not augmented its staff or budget for wildlife hazard control activities.

Table M-2. Summary of DEIS Comments and FAA Responses, continued

#	Comment Summary/Excerpt	Response
268	Page 3-28, Section 3.2.5.2, paragraph 1: This paragraph understates the importance of recreational flying from JNU. This activity is not limited to based aircraft and CBJ residents. The airport is accessed almost daily on a year-round basis by residents of nearby communities and very heavily by visitors from around the world, mostly during the spring and summer months.	We concur that additional emphasis re: recreational flying at JNU is warranted. Please, see the modifications to the referenced Section.
269	Page 3-31, Section 3.2.5.2, paragraph 5: It should be mentioned here that Airport Management has the authority and in fact has restricted access in the past.	We concur with this comment. Please, see the modifications to the referenced section.
270	Page 3-32, Table 3-8: An additional infrastructure project is planned for 2005-2006. This is a sewer line connection across the Refuge and around the west end of the runway to the Mendenhall Wastewater Treatment Plant.	Thank you for bringing this project to our attention. Please, see the modification to Table 3-8 and Table 5-3 in the cumulative effects analysis.
271	Page 3-33, Section 3.3: This Section needs to strongly state the importance of the Airport to the community and how it is critical to access and to retaining Juneau as the Capital City. This importance needs to be repeated often and cannot be overstated.	The importance of JNU is stressed throughout the document. Please, see the modification to end of paragraph 1 in Section 3.3.6, which reads " <i>Transportation access to the State Capital is frequently discussed in association with the Capital move issue, and JNU plays a critical role in that access.</i> "
272	Pages 3-201, Section 3.13: This paragraph is incomplete in its discussion of Section 4(f). This law allows the landowner to determine the significance of the land. There is no discussion here as to how the State of Alaska determined the significance of the Mendenhall Wetlands State Game Refuge, or even if the State did make such a determination. At one meeting, the FAA implied the determination was made as an almost casual statement in a meeting with State biologists. A full evaluation of significance by the State could possibly avoid the whole question of 4(f) as it pertains to the Refuge.	FAA disagrees with the comments and stands by its determination that the Refuge qualifies as a Section 4(f) land. FAA does not believe a significance determination should be made without careful review of the law and site-specific circumstances, and would certainly not rely on a "casual statement" to reach such a conclusion.
273	Page 3-202, Section 3.13.1.1: This paragraph speaks to the boundaries of the Refuge as it was originally established. Over the past 30 years, the Refuge boundary has changed dramatically due to isostatic rebound. This is a very widely accepted change and should be addressed and acknowledged here.	Isostatic rebound is provided full discussion in the EIS, including it's ongoing effects on the landscape and relationship to actions and alternatives. For examples, see Sections 3.5.2.7, and various Sections of the environmental impact analysis (Chapter 4) and cumulative effects analysis (Chapter 5). Further, the changes in Refuge boundary have no relationship to designation as a 4(f) land.

Table M-2. Summary of DEIS Comments and FAA Responses, continued

#	Comment Summary/Excerpt	Response
274	<p>Page 4-110, Section 4-3-13: The significance of the Refuge as determined by the State of Alaska should be addressed and considered here. This and subsequent paragraphs appear to ignore the language of the State law establishing the Refuge which made transportation uses preferential. The 4<sup>th</sup> paragraph addresses the "vital functions of the Refuge" but does not address these as secondary to the accepted eventual use for Airport expansion, transportation corridors, etc.</p>	<p>FAA disagrees. The information and analysis presented in the EIS clearly documents the legislative intent during establishment of the Refuge (Section 3.13.1) and the criteria put forth in the Management Plan that must be met before the Airport is allowed to expand into the Refuge (Section 4.3.13.10). The State of Alaska (ADF&amp;G) has provided information on the significance of the Refuge. Also, the significance of the Refuge is recognized in the establishing legislation and any use of the Refuge, even for the intended purpose, must minimize impacts.</p>
275	<p>Pages 4-239 &amp; 4-244, Sections 4.10.13 and 4.11.13: It should be noted in each of these two Sections that these impacts were foreseen by the Alaska State Legislature at the time the Refuge was created and therefore this is compatible with the State's intended use of the land. This use is preferential, as written in State Statute.</p>	<p>FAA disagrees that the information offered in the comment is relevant to the discussion of irreversible or irretrievable resource commitments (Section 4.10.13) or short-term use vs. long-term productivity (Section 4.11.13).</p>
276	<p>The City and Borough of Juneau (CBJ) and Juneau International Airport (JNU) request again that Federal Aviation Administration Alaska Region (FAA) complete a new Runway Safety Area Practicability Study as was done for the Ketchikan and Cordova Airports. The FAA previously responded to our request for a new study that the practicability of using EMAS would be determined during the EIS process. The study is required to be done by FAA Order 5200 prior to making determinations regarding the use of EMAS at individual airports. Completion of the study should be done and information disseminated to the public prior to the Final EIS and Record of Decision. FAA has strongly supported EMAS when product functionality or costs have been questioned by CBJ and JNU staff, (prior to the completion of the DEIS).</p>	<p>FAA has determined that EMAS "provides a level of safety that is generally equivalent to a full RSA constructed to the standards of AC 150/5300-13 for overruns" (FAA Order 5200.9), as well as "provides an acceptable of safety for undershoots". By this EIS the FAA has determined, however, that Alternatives RSA-6A and -6B, which incorporate EMAS on both runway ends, are not prudent based on cost since these alternatives are approximately 2.5 times the cost of traditional fill RSA alternatives and exceed FAA's \$30 million financial feasibility threshold for runway safety area at JNU. The final RSA practicability determination will be made when the FAA issues its Record of Decision.</p>
277	<p>EMAS costs appear to be underestimated in the DEIS, and the cost estimates have not been provided by a Professional Engineer, registered in the State of Alaska, as required by state code. We maintain our request that this information be provided in the DEIS through amendment or other means.</p>	<p>FAA has continued to consider and refine costs for all of the actions and alternatives evaluated in the EIS, and is confident that the cost analyses are consistent among RSA alternatives and estimated at a level sufficient for NEPA analysis and decision-making. Further, State code does not require that cost estimates for this type of analysis be provided by a registered PE in Alaska. Appendix A and Section 2.6 provide sufficient cost information for the analysis.</p>

**Table M-2. Summary of DEIS Comments and FAA Responses, continued**

#	Comment Summary/Excerpt	Response
278	<p>Additional information on EMAS was included in the CBJ and JNU Permit Applications and was re-confirmed after June 22, 2005 comments by FAA that some of the information was "inaccurate". Conclusions that the annual and life cycle cost of EMAS will be higher in Juneau than in other places were confirmed to be accurate. The estimates for annual Operation and Maintenance costs are based on up to date information and were obtained through sound, professional engineering applications and standard industry-wide estimating procedures.</p>	<p>FAA disagrees that the cost estimates developed by JNU and CBJ and included in the permit applications are accurate. For example, as stated in a June 16, 2005 letter from the FAA to Mayor Botelho, "The costs to replace/repair the EMAS bed due to damage from an accident would not be part of an airport's annual O&amp;M budget". In addition, "FAA offers a 5-year warranty provision for EMAS, through the Airport Improvement Program (AIP) grant funds, that would substantially reduce annual inspection costs to JNU". AIP grant funds are also eligible for the purchase of specialized snow removal equipment that can be used on the EMAS bed, which would eliminate the higher costs associated with the rental of this equipment. In addition, the Airport's annual O&amp;M budget should not include a budget for periodic EMAS block replacement, as this item would be covered under the 5-year EMAS warranty provision. Also, a 5-year maintenance agreement would be included in the contract and the AIP for eligible maintenance equipment, which would reduce costs. In summary, it appears that the permit applications and this comment overestimated maintenance costs associated with EMAS alternatives.</p> <p>FAA does acknowledge, however, that cost of maintenance for an EMAS RSA will be higher than for a standard RSA but will vary depending on location and type of season they may have from year to year. FAA Order 5200.9 and Advisory Circular 150/5220-22A provide general guidance on maintenance and maintenance costs, which were used in the EIS analysis.</p>
279	<p>ESCO, the EMAS manufacturer, is quoting the price of EMAS at Cordova airport at \$78.00 per square foot, rather than the \$64.00 per square foot suggested in the FAA guidance and included in the DEIS regarding cost. FAA Alaska Region had stated that the cost for EMAS installation should be raised from the \$64.00 per square foot provided in the guidance to allow for higher installation cost in Alaska and for shipping the material to Alaska airports. This was not done.</p>	<p>The comment is incorrect as to the costs used in the DEIS. According to EMAS cost data presented in Tables A-1.3, A-1.4, and A-1.5 of Part II, Appendix A of the JNU DEIS, the EMAS materials and installation cost is referenced at \$78/ft<sup>2</sup> with an additional \$4/ft<sup>2</sup> allocated for additional shipping charges, for a total of \$82/ft<sup>2</sup>. Unit costs for materials and labor rates were updated for the FEIS to reflect increases since the DEIS was issued.</p>
280	<p>SWCA stated that the cost estimate provided in Appendix One of the DEIS does not contain a required 6-inch compacted D-1 gravel bed under the EMAS. These should be added to the cost estimates in Appendix One and throughout the document where EMAS costs are stated. Also, the life cycle costs should be adjusted in the Appendix and throughout the document to reflect the changes suggested in our other comments.</p>	<p>The referenced costs do include estimates for the D1 gravel base course. However, we used an 8-inch depth consistently for all of the alternatives, greater than that referenced by the reviewer. Also, see response to Comment No. 352.</p>



**Table M-2.** Summary of DEIS Comments and FAA Responses, continued

#	Comment Summary/Excerpt	Response
281	Atypically, no FAA construction guidance or circulars for construction plans or specifications for EMAS have been developed. This lack of FAA design plans, specifications, construction testing criteria and requirements for airport maintenance may result in quality control problems and could lead to early EMAS failures. It certainly demonstrates the new and untried nature of the material.	FAA concurs that quality control is an important aspect of any construction contract, including EMAS installation. Actual EMAS design, including designation of the design aircraft and other critical performance factors, is the responsibility of the airport Sponsor's design engineer in consultation with the EMAS manufacturer. AC 150/5220-22, Engineered Material Arresting System (EMAS) for Aircraft Overruns, provides detailed planning, design, and installation requirements for EMAS.
282	It is apparent that ESCO does not have an installation or construction component in the company. A local contractor is hired to install EMAS at each individual airport. This procedure can result in quality control problems since each new project is a first time installation.	ESCO provides design engineering services and construction management related to the various aircraft arresting system products that they sale, and EMAS is one of these products. This type of product and service arrangement is not unlike many other types of facility development projects associated with airports (e.g., baggage handling systems, people movers, security screening equipment, etc.). Quality control problems can arise during almost any type of construction project, airport-related or otherwise, and an EMAS installation would not be immune from potential quality control issues. FAA is confident that contractors in Juneau and Alaska have the skills necessary to undertake an EMAS installation at JNU with precision and professionalism. Quality control and warranty provisions for EMAS require development of a contractor quality control plan establishing acceptance criteria for damaged EMAS blocks prior to installation and require the contractor to provide a 5-year warranty service agreement on the installed blocks. This agreement must include inspections either annually or more frequently if deficiencies are identified in EMAS blocks. The contractor must also perform the necessary repairs and resealing of the deficient EMAS blocks during this 5-year period.
283	Support for EMAS is inconsistent with the FAA prohibition on using products provided by a sole source. If ESCO were to go out of business, no replacement EMAS materials would be available to airports with EMAS installations, warranties would be useless, and product support unavailable.	FAA does not prohibit sole source contracts provided they are justified in accordance with AIP handbook--Section 903 d. In the case of EMAS, the Advisory Circular 150/5220-22A requires that the EMAS meet specific criteria and that the product be approved by FAA. FAA has officially approved use of ESCO as a supplier of EMAS. While ESCO holds a temporary limited term patent for EMAS and proprietary rights to the specific content of EMAS as provided by this company, it does not have exclusive rights to the general process and conceptual design behind EMAS. Neither ESCO nor other potential manufacturers will hold a monopoly on future use of the EMAS materials, only on the proprietary data on how they assemble and mix the material. In the case of bankruptcy, the intellectual property rights to the proprietary data would likely be available for purchase by

**Table M-2. Summary of DEIS Comments and FAA Responses, continued**

#	Comment Summary/Excerpt	Response
283	<i>(continuation of response to comment)</i>	other potential manufacturers. Additionally, there is nothing to preclude another company from using the joint EMAS technology developed by FAA and ESCO to design its own version of the EMAS system. Finally, the status of ESCO as a sole source provider would have no impact on who would warranty the EMAS in the event of bankruptcy. The commenter is correct in the assumption that no third party would likely honor the warranty of another manufacturer in the event of that manufacturer's bankruptcy.
284	There is already disagreement at one airport regarding who will pay for EMAS block replacement costs under warranty. ESCO and FAA claim the airport did not do proper maintenance, voiding the warranty. It is not clear how these disagreements will be avoided for EMAS installations since there is so little information currently available to the airport and CBJ on what specific maintenance and frequency of maintenance will be required to avoid such disputes.	This comment does not provide a reference to the airport cited in the dispute, so it is not possible to verify the facts and applicability of the situation to JNU. However, FAA is not aware of any EMAS installation where ESCO has not honored their warranty based on lack of proper maintenance. AC 150/5220-22, Engineered Material Arresting System (EMAS) for Aircraft Overruns, provides detailed planning, design, and installation requirements for EMAS. Additionally, the construction contract could incorporate a training session to provide Airport operation and maintenance staff with the specific EMAS maintenance requirements. This provision was included in the construction contract for the Cordova Airport RSA project.
285	EMAS's durability has not been proven over time to internationally accepted airport construction standards. With 330 rainy, high humidity days annually in Juneau, condensation within EMAS blocks alone may destroy the material. As a part of EMAS testing at UAF for the FAA Center for Excellence, two types of EMAS test blocks were "installed" at JNU in 2002. These both failed in less than a year. One type fell apart, and the other type had the consistency of modeling or sculpting clay. It is assumed that one block of EMAS material was the initial EMAS product and the second sample block was the second generation product. In response to our request for test results, the FAA says that the test results are not yet available, but JNU and CBJ staff spoke with researchers at UAF. According to researchers in the UAF lab, EMAS failed to retain structural strength and completely came apart after 10 to 14 freeze thaw cycles. JNU has over 100 annual freeze-thaw cycles in an average year from October to March, and based on the preliminary lab test, EMAS could not be expected to survive even one winter at JNU.	FAA is unaware of the "internationally accepted airport construction standards" to which the comment refers. As noted in previous comment responses, the reference to the UAF EMAS tests is not applicable to JNU. Testing done by the University of Alaska was inconclusive because it did not evaluate EMAS as a system (i.e., standard installation procedures were not utilized). The blocks were placed outside, exposed to the elements with no side coatings, backer rods, caulking or vents, and no tack coat asphalt was used between the bottom of the blocks and the pavement to prevent groundwater intrusion.

**Table M-2. Summary of DEIS Comments and FAA Responses, continued**

#	Comment Summary/Excerpt	Response
286	<p>Researchers from UAF cut through the protective layered coating of EMAS blocks installed in Juneau to test for moisture intrusion and found the concrete material was completely saturated. EMAS material had more than doubled in weight from moisture intrusion. The second un-coated sample block had mostly disintegrated into pea-sized gravel pieces along the bottom, sides, and top at the out side edges. ESCO responded that the wrong test blocks had been sent, but since two types of blocks were tested it isn't clear that information is accurate. FAA continues to refuse to release any initial findings from the UAF test despite our repeated requests. According to the research team (unofficially), the over-all finding of the UAF testing is that the material needs additional testing before the effectiveness of EMAS over time in Alaskan climates can be determined.</p>	<p>See response to previous Comment No. 285 and Comment No. 75.</p>
287	<p>[The proposed Cordova] installation would provide an excellent opportunity for further testing in the Alaska environment. CBJ and JNU reiterate our request to delay installation of EMAS at JNU until EMAS is proven to still function in the climate at the Cordova Airport for at least five years.</p>	<p>FAA does not consider Cordova a test EMAS installation. FAA has determined that EMAS "provides a level of safety that is generally equivalent to a full RSA constructed to the standards of AC 150/5300-13 for overruns" (FAA Order 5200.9), as well as "provides an acceptable of safety for undershoots". FAA has determined, however, that Alternatives RSA-6A and -6B, which incorporate EMAS on both runway ends, are not prudent based on cost since these alternatives are approximately 2.5 times the cost of traditional fill RSA alternatives and exceed FAA's \$30 million financial feasibility threshold for runway safety area at JNU.</p>
288	<p>Marine climate at JNU will expose EMAS to salt spray. Marine climates are known to create chemical reactions in concrete which break down the structural strength.</p>	<p>The EMAS installation at JFK is adjacent to marine environment, and has successfully arrested three aircraft potentially saving many lives and millions of dollars in equipment and cargo cost.</p>
289	<p>Can ARFF and other emergency vehicles operate in EMAS in a timely way if an aircraft has crashed and slid into the EMAS area? Apparently no testing of fire fighting or other emergency equipment vehicles on EMAS has been conducted. It is not clear if emergency vehicles can maneuver in 6 to 20 inches of crushable concrete (or how well), so it is not clear what emergency actions for fire fighting or removal of injured passengers would be feasible if an aircraft crashed and slid into the EMAS bed or crashed in the EMAS bed in an undershoot.</p>	<p>The FAA has conducted testing of ARFF equipment performance in EMAS and has included EMAS design requirements in Advisory Circular 150/5220-22A based on airport emergency access requirements and this performance testing. The EMAS bed will not prevent ARFF and other emergency vehicles from performing as designed or accessing an aircraft in the event of an excursion from the runway. Advisory Circular 150/5220-22A Section 15a states that "EMAS is designed to allow movement of typical ARFF equipment operation during an emergency" but recommends that such vehicles should be equipped with and "shifted into all-wheel-drive prior to entering and maneuvering upon an EMAS."</p>

Table M-2. Summary of DEIS Comments and FAA Responses, continued

#	Comment Summary/Excerpt	Response
289	<i>(continuation of response to comment)</i>	Further, AC 150/5220-22A requires that EMAS installations be designed to enable safe ingress and egress in addition to movement of ARFF equipment (not necessarily without damage to the EMAS) operating during an emergency. If the EMAS is to be built above existing grade, sloped areas sufficient to allow the entrance of ARFF vehicles from the front and sides must be provided. Provision for access from the back of the EMAS may be provided if desirable. Maximum slopes must be based on the EMAS material and performance characteristics of the airport's ARFF equipment.
290	It is not clear from the information provided how smaller aircraft may fare in an undershoot onto the EMAS material. Certainly amphibious aircraft and other small aircraft common at Juneau would have serious trouble in a "hard" landing into this material.	FAA Order 5200.9 Section 6a declares that EMAS, when installed in accordance with Advisory Circular (AC) 150/5220-22a, provides an acceptable level of safety for undershoots. The order, in Section 6a(3), states that as part of the EMAS design and installation "the resulting RSA must provide adequate protection for aircraft that touch down prior to the runway threshold (undershoot)." Finally, AC 150/5220-22A Sections 8c and 8j require that EMAS be designed to taken into consideration impacts to aircraft that land short and to "not cause control problems for aircraft undershoots which touch down in the EMAS bed." Please also see response to Comment No. 36. The proposed EMAS design for JNU would provide an area in front of the EMAS bed meeting RSA standards for most small, general aviation aircraft. No RSA design, whether traditional or EMAS, is intended to address all conceivable scenarios in which a pilot does not have control of the aircraft.
291	The EIS has underestimated initial, annual, replacement, and life-cycle cost for EMAS in Juneau. The new information should be evaluated by the FAA, (instead of being refuted by FAA staff with general, unsubstantiated comments). Using our best professional judgment as engineers, pilots, and NEPA consultants, the JNU and CBJ team has determined that EMAS is not a prudent alternative to standard runway safety area at JNU. We request this determination be carried forward in the Final EIS or, alternatively, science-based information be provided to CBJ, JNU and the public, demonstrating that the determination is incorrect.	FAA disagrees that the cost estimates developed by JNU and CBJ, and included in the permit applications, are accurate. For example, as stated in a June 16, 2005 letter from the FAA to Mayor Botelho, "The costs to replace/repair the EMAS bed due to damage from an accident would not be part of an airport's annual O&M budget". In addition, "FAA offers a 5-year warranty provision for EMAS, through the Airport Improvement Program (AIP) grant funds, that would substantially reduce annual inspection costs to JNU". Initial, annual, replacement, and life cycle costs for EMAS would not be born entirely by CBJ. AIP grant funds are also eligible for the purchase of specialized snow removal equipment that can be used on the EMAS bed, which would eliminate the higher costs associated with the rental of this equipment. In addition, the Airport's annual O&M budget should not include a budget for periodic EMAS block replacement, as this item would be covered under the 5-year EMAS warranty provision. Also, a 5-year maintenance agreement would be included in the contract and the AIP for eligible maintenance equipment, which would

**Table M-2.** Summary of DEIS Comments and FAA Responses, continued

#	Comment Summary/Excerpt	Response
291	<i>(continuation of response to comment)</i>	<p>reduce costs. In summary, it appears that the permit applications and this comment overestimated maintenance costs associated with EMAS alternatives.</p> <p>Replacement costs associated with incursions into EMAS by airplanes would generally be born by airlines, thereby reducing the costs to the Airport. As stated in a June 16, 2005 letter from the FAA to Mayor Botelho, "The airline responsible for damage would typically be held accountable for repairs. However, repair cost can be a contentious issue between air carriers and airports, as it is not unusual for an air carrier to allege mitigating circumstances when their actions have resulted in damage on an airport." Regardless, we agree that it would be beneficial for the Airport to establish or add to an existing contingency or rainy day fund for such unpredictable events or circumstances. Again, under most all reasonable circumstances, the Airport would not be responsible for funding the cost of the EMAS repair that results from damage by an airline or other aircraft operator.</p> <p>However, following issuance of the DEIS, FAA obtained updated cost information for EMAS from the EMAS manufacturer, ESCO, and from bid information for the installation of EMAS at Cordova, Alaska. With this information, and in consideration of inflation rates for other construction related materials and labor, FAA has determined that Alternatives RSA-6A and -6B, which incorporate EMAS on both runway ends, are not prudent based on cost since these alternatives are approximately 2.5 times the cost of traditional fill RSA alternatives and exceed FAA's \$30 million financial feasibility threshold for runway safety area at JNU.</p> <p>Alternative RSA-6C, which incorporates EMAS at only one runway end and uses traditional fill at the other, is still considered prudent, as it does not exceed FAA's financial feasibility threshold for runway safety area at JNU.</p>

**Table M-2. Summary of DEIS Comments and FAAResponses, continued**

#	Comment Summary/Excerpt	Response
292	<p>It appears that the DEIS has selectively discussed EMAS attributes. This is a critical failing because the intent of the EIS process is to clearly distribute all available information to the interested parties and the public. This failure to provide information results in concerns with the thoroughness of the information gathering process if the Final EIS does not reflect this additional information. The DEIS does not present all information needed to make a good runway safety area alternative selection. All relevant information and preliminary test results on the product should be discussed in the DEIS: even preliminary information and testing results need to be included and noted as preliminary information. Failure to include this information results in a flawed document, and leads to incorrect evaluation of the RSA alternatives in the DEIS, and potentially Final EIS and ROD, if not corrected. The FAA must provide the missing information, conduct more testing, and delay future EMAS installations until all questions related to public safety issues are resolved.</p>	<p>In response to the questions and comments raised during (and prior to) the public comment period on the DEIS, FAA has included additional information in the EIS concerning EMAS, particularly information derived from actual experience at other airports in the United States. FAA has determined that EMAS "provides a level of safety that is generally equivalent to a full RSA constructed to the standards of AC 150/5300-13 for overruns" (FAA Order 5200.9), as well as "provides an acceptable of safety for undershoots"</p>
293	<p>Page ES-50, Table ES-8 and page ES-75, Section 4.1.4, East Runway Slough: JNU and CBJ requested the addition of a new slough connection in our permit applications to connect the Sunny Point slough to the Miller-Honsinger slough complex. This new connection should be incorporated in making evaluations &amp; determinations regarding the impacts of the extended RSA to the Miller-Honsinger marsh and sloughs and Essential Fish Habitat. The connection is included in the Juneau International Airport (JNU) Permit Applications and is intended to minimize impacts to the marsh slough systems and essential fish habitat.</p>	<p>Additional analysis has been added to the EIS in Sections 2.6, 2.11 and 4.3.6, including the options presented. Also see response to Comment 240. However, FAA disagrees that the action would minimize impacts to the marsh slough systems and EFH; rather, the area of disturbance would increase north and east of the runway, and indirect effects on EFH would also be exacerbated by the hydrologic modifications.</p>
294	<p>Page ES-53, Appendix One, and throughout the DEIS where Runway Safety Area (RSA) alternative life cycle costs are discussed: JNU was provided additional life cycle costs information based on a Financial Feasibility Evaluation done by USKH Engineering, Inc. in April 2005 for FAA. The FAA initially completed an FFE for Ketchikan (KTN) airport using a 5-year replacement for EMAS for estimating life cycle costs. The FAA has since stated that the 5-year analysis was a mistake and has revised the FFE with a 10-year replacement cycle. JNU and CBJ are still concerned that climate conditions in Juneau will shorten of the actual life cycle of EMAS.</p>	<p>Thank you for your comment. FAA notes CBJ's and JNU's concerns about the lifespan of EMAS in Juneau's climate. Please, see the responses to Comment Nos. 201 and 64.</p>

Table M-2. Summary of DEIS Comments and FAA Responses, continued

#	Comment Summary/Excerpt	Response
295	Pages 1-18 thru 1-25, Section 1.3.6 & Table 1-7: Alaska Airlines is already using the B737-900 infrequently at JNU and can reasonably be expected to increase use over time. JNU must be able to accommodate these aircraft. Runway length & RSA should incorporate their use in all weather conditions, so "slippery" conditions should be added to Table 1-7 for the 737-900 aircraft.	It is not clear that the B737-900 use at JNU would reasonably be expected to increase over time, considering the stage lengths involved in JNU operations and the other types of aircraft potentially available to Alaska Airlines. Information about aircraft performance in poor braking conditions has been added to Table 1-7 in the FEIS.
296	Page 2-38, Section 2.2.2.7, RSA-6B EMAS Technology: FAA's June 22, 2005 letter to CBJ says EMAS performs with presence of water in the EMAS blocks (but not cells) and that the air carrier's insurance pays for EMAS use. This is repeated and referenced in the DEIS. FAA needs to provide CBJ the basis for those two statements and to provide this information in the DEIS. JNU believes that if air carriers go to litigation, there is no guarantee that the airport or the city would not have to bear the cost. The airport would almost certainly have to forward fund the cost, until the costs could be recovered. Certainly the airport would have to bear the cost initially. The DEIS needs Alaska Airlines and other air carriers who are frequent users at JNU to comment on how JNU's request for EMAS reimbursement would be responded to. This issue has an impact on the economic aspects of using EMAS at JNU and is related to the prudence determination JNU and CBJ have made. We suggest that JNU begin documented discussions with Alaska Airlines and other carriers and tenants to clarify how damage to airport facilities would be repaired and recompensated so as not to unduly burden JNU economically.	Additional information has been provided in the DEIS. As stated in a June 16, 2005 letter from the FAA to Mayor Botelho, "The airline responsible for damage would typically be held accountable for repairs. However, repair cost can be a contentious issue between air carriers and airports, as it is not unusual for an air carrier to allege mitigating circumstances when their actions have resulted in damage on an airport." This holds true whether an aircraft damages EMAS, or comes to rest in an estuary after sliding off an RSA, or damages terminal loading facilities. Regardless, we agree that it would be beneficial for the Airport to establish or add to an existing contingency or rainy day fund for such unpredictable events or circumstances. Again, under most all reasonable circumstances, the Airport would not be responsible for funding the cost of the EMAS repair that results from damage by an airline or other aircraft operator.
297	Page 2-59, Section 2.4.1.1, SREF-1, NW end of Airport: How would the NW Development project area layout be changed to accommodate SREF-1B? A drawing of the two projects combined would be needed to determine if the combination of the two projects into the single project site is feasible.	FAA believes it would be feasible to construct an SREF in the northwest portion of the Airport. However, as explained in Section 2.8.1.2, this location would be less efficient and could cause conflicts with aviation operations, as equipment would have to traverse through an area of hangars and aircraft parking to reach the runway and taxiways. As a result, aviation development in the northwest area would be reduced, and some identified needs, particularly general aviation hangars and parking, would have to be established in the northeast development area. This layout would be less efficient and not achieve the objective to separate aviation operations.

**Table M-2. Summary of DEIS Comments and FAA Responses, continued**

#	Comment Summary/Excerpt	Response
298	Page 2-75, Section 2.4.3.2, page 2-178, Section 2.8.3.2, and Figures 2-29 & 2-30: It is not clear if the proposed location would be available for the fueling station, because some of the area shown is currently leased long-term to tenants. There are safety risks associated with the location of the site along a very active road and taxi lane. Also, fuel spills would be more difficult to contain. The chance of spills at the fuel site would double since fuel transfer would occur at the fuel farm (off-loading tanker trucks) and at the new site.	It would seem that JNU could best determine whether or not the location noted would be available for a fueling station, as the Airport holds the leases. We have requested the lease information from JNU and provide discussion in the EIS concerning availability of this site. This site and layout of this alternative was coordinated with JNU. The location was selected because of the scarcity of moving aircraft relative to other locations on the Airport. Finally, it is incorrect to conclude that the chance of fuel spills would double. The number of fuel transfers would remain the same. See the response to Comment No. 67.
299	Page 2-70, Section 2.4.2.5: Lost revenue to JNU from unrealized leases would result; this lost revenue should be estimated as is done in a later Section of the DEIS, and incorporated into the evaluation of economic impacts to the airport.	FAA concurs that a general statement regarding lost revenue is appropriate. Please, see the revisions to Section 2.4.2.5, which states: <i>"The lack of new facilities would also prevent CBJ from gaining additional revenue at the Airport, such as those received from tie-down rentals and hangar/apron leases."</i>
300	Pages 2-104 and 2-105, Table 2-11, Items 2 and 3: Eagles and gulls feed in relatively large numbers on these wetlands where forage fish and post-spawn salmon carcasses are trapped in depressions and sloughs. Species-specific relative risk needs to be increased.	The risk model developed for this EIS resulted in a Species Relative Risk factor of 184 for Items 2 & 3 (birds attracted to wetlands on west portion of Airport property and birds attracted to wetlands west of Airport property). This is the highest Species Relative Risk factor of any calculated and, as such, provides an accurate ranking of risks associated with bird use in wetlands on the west end of the runway.
301	Page 2-113, Section 2.5.4.1, Op. Considerations for RSA 5C: The statement is made: "Relocation of runway 26 to the east could result in penetration of obstructions along Gastineau Channel." FAA should determine if penetrations would result. Please, provide this information to determine if this could affect property owners on Sunny Point.	The presence of potential obstructions is not a deciding factor in FAA's selection of the preferred alternative. Please, also see the response to Comment No. 262.
302	Page 2-119, Section 2.6.4.2, Environmental Considerations for RSA-5C: Discuss JNU's proposed connection of Sunny Point Slough to the existing sloughs south of Honsinger Pond. Provide information showing the basis for the last sentence in this Section/	The displacement of tidal flows resulting from placement of the large amount of fill associated with RSA-5C would mean reduced tidal exchange due to the lost volume of water from the fill. Additional analysis has been included in the EIS in response to these proposals.



Table M-2. Summary of DEIS Comments and FAA Responses, continued

#	Comment Summary/Excerpt	Response
303	Page 2-122, Sections 2.6.6.1 and 2.6.6.2, Operational & Environmental Considerations for RSA-6B: Shifting of the RSA to the west would reduce wildlife hazards at the west end of runway by eliminating bird attracting habitat. This would reduce the area needed for the habitat modification project. Explain project overlap and reduction in adverse impacts to wetlands and/or EFH.	Thank you for your comment. FAA concurs that there can be synergistic benefits (and impacts) when considering the concurrent development of separate actions, such as runway safety area and wildlife hazard reduction. This is addressed at various locations in the EIS, such as Sections 5.5 and 2.9.1.2. However, this does not necessarily imply a "reduction in adverse impacts," since a more correct comparison would be between alternatives that have differing effects on wetlands west of the runway.
304	Page 2-127, Section 2.7.1, Nav-2B: MALSR on Rwy 26: It should be noted that response 24-hours a day would not be possible while the access road is flooded by high tides (2 times each day for four hours at tides above about 14.0 MLLW).	Thank you for your comment, we concur that Section 2.7.1.2 should specifically note that the lights would not be accessible 24-hours per day.
305	Page 2-128, Section 2.7.1.1, MALSR Design: Discuss whether EMAS can support ¾-ton utility vehicles for MALSR repair and maintenance.	Maintenance vehicles like a ¾-ton utility vehicle should not be permitted to access the EMAS bed. Any tire rutting to the surface of the EMAS bed material could compromise the water resistant design features of the EMAS. FAA Advisory Circular 150/5220-22A Section 8i states that EMAS is not intended to support vehicular traffic for maintenance purposes.
306	Page 2-19, Figure 2-25, Comparison of RSA Alternatives: Drawings should show fill toe of slope with the road and trail on the west end.	We concur that drawings should be included in the EIS that depict the toe slopes and Airport/Refuge features. Figure 2-25 of the DEIS (Figure 2-31 of the FEIS) has been modified to show the extent of toe slopes and other disturbance associated with the RSA alternatives. Please, also see Figures 2-23 through 2-30 for a more detailed illustration of disturbance areas for each RSA alternative.
307	Void	Void
308	Pages 2-132 through 2-134, Subsection: Water resources & flood plains, Snow Storage: ESCO has stated ice cannot be allowed to build up over 1-inch above/on EMAS. Snow must be cleared from EMAS and will be pushed over the edge of the RSA into RSA side-slopes and wetlands below.	The EMAS manufacturer, ESCO, has recommended avoidance of ice build-up on the EMAS surface. Additionally, it is prudent for the Airport to prevent excessive ice buildup on EMAS or traditional RSA material, however, as icy conditions will reduce aircraft braking response. Snow does not have to be cleared frequently from EMAS.
309	Pages 2-132 through 2-134, Subsection: Wetlands: Show the basis for the DEIS findings that some alternatives are consistent and inconsistent with the Refuge plan.	The basis for the DEIS findings with respect to wetlands and consistency with the Refuge Management Plan is clearly described in Section 4.2.8 (see page 4-21 of the DEIS).

**Table M-2. Summary of DEIS Comments and FAAResponses, continued**

#	Comment Summary/Excerpt	Response
310	Pages 2-132 through 2-134, Subsection -- Fisheries: JNU has proposed a new slough connection to minimize changes to Miller-Honsinger Marsh that will work for all RSA alternatives.	FAA has included in the FEIS a description and analysis of the "new" slough connection, to redirect by dredging of existing channels the tidal recharge into the wetlands south of Miller-Honsinger Pond via Sunny Slough (the potential for this to happen as a consequence of Alternative RSA-5C was described in the DEIS). However, we disagree as to the effectiveness of this option for the alternatives involving relatively little disturbance on the east runway end (particularly alternatives RSA-6A, RSA-6D, and RSA-6B). Please, see Section 2.11.4.4. This type of connection would alter the hydrology of the areas north and south of the runway far more than would occur if these hydrologic connections were re-established through active reconstruction of the slough channels around the end of the runway safety area for all alternatives that do not extend as far east as RSA-5C.
311	Pages 2-132 through 2-134, Table 2-13. Note 1: Identify the amount of acres included for lateral safety area in each alternative that disturbs such area. This portion of the work may be very close to the same for all RSA alternatives so the relative costs of the runway safety area alternatives with EMAS will be proportionally higher. This information should be included in all the cost comparisons between EMAS and standard RSA alternatives.	RSA-5C would have the greatest amount of lateral safety area because of the large eastward shift in threshold. Lateral safety areas for RSAs 1 and -6C would be the same; RSA-6A would have a slightly greater amount of lateral safety area, while RSA-6B would have the least. Estimated amounts of lateral safety area are identified in Section 2.6.
312	Page 2-136, Section 2.7.1.2, Access Road & MALSR Construction: Provide a cost estimate in Appendix One for MALSR with the access road for Alternative RSA 5-C, and EMAS alternatives.	An estimate of costs for the MALSR system is provided in Table 2-14 of the FEIS. However, the total cost is highly dependent on route and manner of structure used for channel crossings. As noted in Section 2.7.1.2, cost may range from \$1 to \$2 million, depending on the alternative selected and route.
313	Page 2-189, Section 2.9.1.2, WH-1B: USDA clearly stated in writing to SWCA and FAA in 2002 in response to the PDEIS that additional wildlife hazing cannot be substituted for habitat modification when trying to reduce existing wildlife hazards. This information has been omitted from the DEIS. Wildlife hazing can only be accomplished after wildlife has entered the risk area, and hazing only results in driving the wildlife in an unpredictable route back through the risk area (This is true for birds as well as mammals such as bear and deer.)	Section 2.9.1.2 describes an option to fill on-airport wetlands to reduce habitat; it does not discuss active management such as wildlife hazing. Nonetheless, active management is an accepted wildlife hazard management practice recommended by the USDA for civilian and military airports throughout the country.
314	Page 2-191, Section 2.9.1.7, WH-1G, Mechanically Remove Float Pond Vegetation: Dredge equipment may be moved in by truck, so the dike may not be breached. No trail or road disruption is necessary if the dike is not breached.	Thank you for this clarification. Section 2.9.1.7 has been revised accordingly.

**Table M-2.** Summary of DEIS Comments and FAA Responses, continued

#	Comment Summary/Excerpt	Response
315	<p>Pages 2-196 and 2-197, Section 2.9.3, WH-3, Minor Habitat Modification and Adaptive Management Alternative): The USDA local representative and airport wildlife control team have stated that hazard control techniques cannot be substituted for habitat modification alternatives. JNU staff concurred. If the wildlife attractant is removed, then wildlife would not be attracted into areas where they become hazards. Hazard control or harassment can only occur after the wildlife and/or birds have entered the hazard area and dispersal techniques (used after they have become a hazard) only make wildlife and birds move or fly in an unpredictable direction, doubling the hazard.</p>	<p>The DEIS recognized that hazing is not a complete substitute for habitat modification (see Section 2.5). Active management is an accepted wildlife hazard management practice recommended by the USDA for civilian and military airports throughout the country.</p>
316	<p>Page 2-197, Section 2.9.3.1, Increased Staff: All of the bulleted items are presently occurring, so this alternative does not create new actions to address the existing problem. A full time control officer and advisory group is the only new feature of this alternative and neither action has been determined to definitely increase the effectiveness of the program.</p>	<p>Based on the information provided by JNU on the staffing and other resources presently allocated to wildlife hazard management, FAA disagrees that all of the items noted are presently occurring in the form described in Section 2.9.3.1. In addition, FAA staff and wildlife experts including those from USDA have recommended that additional staff would increase the wildlife hazard management program effectiveness. See, for example, Section 7.1 of the Wildlife Hazard Assessment (4/2001).</p>
317	<p>Page 2-198, Section 2.9.3.2, Increased Hazing: Same comment as no. 316. This is currently being done, so little or no new benefit would result.</p>	<p>See response to Comment No. 316.</p>
318	<p>Page 2-198, Section 2.9.3.3, Adaptive Management: Same comment as no. 316: This is already being done. The only change would be to hire new staff (control officer) to take over the duties of the current officer who has more than 22 years of experience at this airport in these duties. The case that an increase in effectiveness would result has not been made.</p>	<p>See response to Comment No. 316.</p>

**Table M-2.** Summary of DEIS Comments and FAA Responses, continued

#	Comment Summary/Excerpt	Response
319	<p>Page 2-199, Section 2.9.3.4, Working group: JNU currently has an established WHAG. This is spelled out in the JNU WHMP approved by the FAA in April 2002. The discussion here may be pertinent if it discusses the make-up of the group; it is not accurate to discuss establishing the group. Also, there is no basis for the assumption that a change in the group would increase the effectiveness of JNU's program. There would be few additional people in Juneau to include in the group that would have the <u>necessary expertise in wildlife control at airports</u> to have a positive effect.</p>	<p>FAA was not aware that JNU has a functioning wildlife hazard advisory group, since no minutes of meetings or recommendations have been provided to the FAA or EIS consulting team as part of the project evaluation. It is not necessary to have "expertise in wildlife control at airports" to have a positive influence on an advisory group. There are a number of citizens, &amp; state and federal resource agencies in Juneau with expertise in birds, particularly those species using the Refuge and Airport environs. In addition, the many benefits of including citizens and local interest groups in a regularly held wildlife hazard working group are spelled out in Section 2.9.3.4.</p>
320	<p>Page 2-200, Section 2.9.3.5, Hunting Program: Most of the staff currently conducting wildlife control at JNU have many years of experience at this task in this environment. They are unanimously in strong support of the hunting program as a deterrent to waterfowl consistently using the sloughs. This support comes after comparing years when no program existed to years when the program was or is in effect. Because of their daily observations over many years, the staff are the best resource for information on this topic; the information they provided was ignored. USDA concurs the hunting program is effective as a deterrent based on several years of USDA observation. Discuss in detail the past effects of the hunting program available from the airport staff, control tower personnel, and USDA wildlife officer assisting at JNU, and provide this information to the public.</p>	<p>The wildlife hazard assessment prepared for the airport recommends discontinuing hunting, contrary to the claim that hunting is effective as a deterrent. FAA also recommends that hunting be discontinued in conjunction with an increase in active hazing. Anecdotal evidence provided by the Airport Board Chair's with regards to Airport staff hazing swans on the Float Plane Pond, only to see them fly across the runway is difficult to reconcile with JNU's defense of a hunting program where hunters are not highly experienced with or professionals in wildlife control. In addition, the data presented in Section 2.5.2 illustrate that JNU does not budget for highly experienced personnel to manage the wildlife hazard program. The USDA's wildlife hazard assessment recognized this deficiency in the hazard management program at JNU. Hunting programs for wildlife control must be carefully coordinated and controlled through the air traffic control tower. Uncontrolled hunting may actually increase bird strike risk. Consequently, eliminating the on-Airport hunting program has been included as a component of Alternative WH-3 and is recommended by FAA.</p>
321	<p>Page 2-203, Table 2.23, Comparative Summary of Environmental Impacts of WHMP: JNU proposes to use some alternatives from each "group", WH-1, WH-2, and WH-3.</p>	<p>The proposed action for wildlife hazard management is described in Section 1.5.4.</p>
322	<p>Page 2-208, Section 2.10.2, ASOS: Footnote 33 on page 2-210 conflicts with the last paragraph on page 2-211. NWS stated that the at-grade road described as an alternative is not acceptable. Therefore, it should be eliminated from consideration.</p>	<p>There is no conflict between the cited footnote and the text. Section 2.10.2 of the DEIS identifies an option for road access to minimize environmental impacts. The text in this Section concludes that an at-grade road is not feasible.</p>

Table M-2. Summary of DEIS Comments and FAA Responses, continued

#	Comment Summary/Excerpt	Response
323	<p>Page 2-216, Section 2.11.3, Jordan Creek Culvert: The following information should be made available to the public:</p> <p>a. Adverse impacts to fish passage appear to be limited. Therefore, there is not a clear need to provide this improvement relative to the financial and operational impacts to JNU and CBJ. This is supported by:</p> <p>i. Peak Velocities through the pipe only occur after substantial rainfall/storm events (2 inches per hour; about 5 annually for relatively short duration), and on out-going tides from elevations above approximately 16 to 18 feet MLLW. These conditions affecting fish passage upstream only occur a few times a month and last only a few hours; and</p> <p>ii. The growing annual Fish and Game counts of fish and smolts upstream of the culvert.</p>	<p>Comment noted. FAA does not agree that there is information to support the statement that "adverse impacts to fish passage appear to be limited." The existing fish data may reflect suppressed populations due to the corrugated metal pipe culvert. In addition, the Airport's proposal would increase the length of the culvert by approximately 60%. The expertise at applicable state and federal resources agencies acknowledge the potential effects on fisheries and recommended open bottom culverts to improve fish passage to upstream habitat. See, for example, Comment No. 364.</p>
324	<p>Page 2-216, Section 2.11.3, Jordan Creek Culvert: The proposed culvert does not appear to be able to bear the same weight loading as the existing culvert because it is wider, resulting in a greater void under the runway. The area and height of the asphalt support substructure is reduced, possibly reducing transfer of weight (load). Before the cost of the proposed work is estimated, a more complete design must be done that will assure the proposed structure in the EIS will be adequate for the estimated loads of landing aircraft.</p>	<p>Comment noted. The conceptual design for the bottomless arch culvert was developed using the loading from a 737-900. Similar arch culverts have been used at George Bush Intercontinental Airport, TX; Buffalo Niagara International Airport, NY; and Clinton County Airport, OH - an Airborne Express international hub. The cost is based on the conceptual level of design and includes considerations for proper compaction of foundation and sub-grade materials. FAA concurs that a full design should be done for this and all proposed actions prior to final permitting or construction work.</p>
325	<p>Page 2-216, Section 2.11.3, Jordan Creek Culvert: Describe how the creek would be re-directed during placement of concrete footings. Re-direction of the creek would slow the construction process and the creek diversion will have substantial adverse impacts to fish in the creek as well as to aircraft operations.</p>	<p>Arch culverts and foundations could be installed without stream diversion using isolation sheet piling and dewatering excavations via pumps.</p>
326	<p>Page 2-216, Section 2.11.3, Jordan Creek Culvert: Operational safety and capability is greatly reduced while the runway is out of service. Construction requires excavation, de-watering, fill, and compaction of new material under concrete footings; then installation of pipe, compaction of back fill and replacement of asphalt structure (sub-base, base, pavement). The depth of the trench would necessitate installation of protective sheet piling or excavation of an extra-wide trench (approx. 60-feet).</p>	<p>Operational capability will be reduced, as is acknowledged in the EIS. For this reason, FAA recommends (and resources agencies agree) that arch culverts not be installed until the next runway rehabilitation project, when the runway will be closed anyway. Maintenance of safety will require additional effort. The construction requirements noted in the comment appear consistent with EIS assumptions. Additionally, construction must be done in accordance with FAA's Airport Construction Advisory Circular 150/53.</p>

**Table M-2. Summary of DEIS Comments and FAA Responses, continued**

#	Comment Summary/Excerpt	Response
327	<p>Page 2-216, Section 2.11.3, Jordan Creek Culvert. One initial, conceptual cost estimate is triple the \$2,300,000 given in Appendix One (\$7,540,000) if the proposed arch pipe cannot bear the load of landing aircraft and a concrete box culvert of that size is substituted.</p>	<p>Concrete arch pipes have been used at airports with similar loadings (See response to comments 5 and 324). We believe the \$7.5m cost referred to was for East Runway Slough and not culverts in Jordan Creek.</p>
328	<p>Page 2-216, Section 2.11.3, Jordan Creek Culvert: New fill in the culvert Section may cause differential settling due to the age of the runway structure and may cause differential and increased movement of the asphalt Section during frost heave and freeze-thaw cycles in the reduced fill area above the pipe and below the asphalt. This would result in shortened life of the runway.</p>	<p>Final design would incorporate geotechnical analysis and construction recommendations to protect existing infrastructure. The concerns expressed in the comment are applicable to any culvert installation beneath a runway.</p>
329	<p>Page 2-220, Section 2.11.4, East Runway Slough: A reasonable and less expensive alternative is to connect the Sunny Point Slough to the existing sloughs north of the alternative RSA-5C footprint. This would also eliminate the need for a culvert crossing of the MALSR Road. Please discuss this alternative.</p>	<p>Additional analysis of this option has been included in the EIS. Please, see Sections 2.11.4 and 4.3.6.</p>
330	<p>Both the culvert and slough should be considered compensatory mitigation, included in the Compensatory Mitigation projects review, and the costs of these project components compared to other Compensatory Mitigation projects.</p>	<p>Eliminating the need for a culvert on the MALSR road by enlarging (and possibly regrading) Sunny Slough is more properly considered an avoidance or minimization measure. Provided that the modified slough could transport a similar volume of tidewater at comparable rate of flow as East Runway Slough, indirect impacts to the estuarine wetlands south of Miller-Honsinger Pond would be minimized. However, because modifications to Sunny Slough would result in direct impacts to high and low marsh habitat and would not offset direct impacts associated with filling East Runway Slough, and would potentially have impacts on Jordan Creek species, it cannot be considered compensatory mitigation.</p>
331	<p>Page 2-222, Section 2.11.5, MALSR Access: The building required for the MALSR road must be shown on the drawings here and for alternative RSA-5C for comparative purposes of EMAS alternatives. Selection of alternative RSA-5C will reduce the need for MALSR Refuge impacts and MALSR project costs. Discuss this in the appropriate MALSR and RSA alternative Sections.</p>	<p>We concur the building should be included on the drawing, thank you. Figures illustrating the MALSR system in the FEIS include the building. However, FAA disagrees with the conclusion. RSA-5C would not reduce the MALSR Refuge impacts relative to other alternatives; to the contrary, it would result in the greatest Refuge impacts in terms of length and area of disturbance east into the Refuge. Because more lights would be mounted in the RSA, we concur that RSAs -1, -5C, and -6C would actually result in less construction and maintenance costs attributable to the MALSR than for the EMAS alternatives.</p>

**Table M-2. Summary of DEIS Comments and FAA Responses, continued**

#	Comment Summary/Excerpt	Response
332	<p>Page 2-228, Sec. 2.12.1, Mitigation Policies and Regulations: Relocation of the east runway slough would increase wildlife hazards at the east end of the runway by creating new bird attracting habitat at the end of the runway, conflicting with FAA AC 15O/5200-33 and the MWGR Management Plan.</p>	<p>Moving existing sloughs will not create new habitat, it will maintain existing flows by extending sloughs. See agency concerns about redirecting slough flows east.</p>
333	<p>Page 2-230, Section 2.12.3, Summary of Compensatory Mitigation Plan: Cost for Eagle Beach property is given as \$1M instead of \$500,000 given earlier in the DEIS. CBJ requested that SWCA ascertain the availability for this and other proposed mitigation sites more than two years ago. This was not done, and it appears now that the BSA Council has a tentative agreement to sell this property to others. Can we join with SEAL Trust to accomplish the acquisition for mitigation purposes?</p>	<p>Eagle Beach was identified as a potential mitigation site in an interagency meeting held in September of 2003. Shortly thereafter, SWCA contacted Lane Stumm of the Boy Scouts of America to inquire about acquisition of the site. Information from Mr. Stumm was provided in the December 2003, interagency meeting in which the mitigation screening matrix was presented. At that time, it was not considered prudent to pursue acquisition of a site without knowing what mitigation would be required or considered acceptable by the agencies. It is now clear that acquisition of the BSA property would not be considered a satisfactory compensatory mitigation plan by the Cooperating Agencies, for reasons consistent with those discussed during interagency/CBJ meetings and between SWCA, FAA and CBJ. A conceptual mitigation plan is being prepared by the Airport in consultation with a number of state, local and federal agencies. Acquisition of accretion rights for lands around the Refuge is being considered as an important component of the compensatory mitigation package. A process for compensatory mitigation has been approved for incorporation into a Compensatory Mitigation Plan, to be included with the final project permits. Section 2.12.3 of the FEIS includes a summary description of this process.</p>
334	<p>Page 2-132, Section 2.13.1, Preferred Alternative - RSA: Full discussion and disclosure of the reasons CBJ/JNU have chosen alternative RSA-5C should be included here. EMAS is not a prudent alternative based on initial costs, lifetime costs, O&amp;M effort and costs, safety reduction, and unproven nature of the system in Southeast Alaska climate. Distribution of the information included in the JNU permit application to the public should be done prior to preparation of the Final EIS.</p>	<p>FAA does not concur with the comment. As is described in the introduction to Section 2.13, the subsections (including 2.13.1 for runway safety area) "summarize FAA's current position with respect to preferred alternatives for these actions." CBJ's proposed action is identified in numerous locations in the EIS, including Sections 1.5.1 and 2.2.2.6. FAA has determined that Alternatives RSA-6A and -6B, which incorporate EMAS on both runway ends, are not prudent based on cost since these alternatives are approximately 2.5 times the cost of traditional fill RSA alternatives and exceed FAA's \$30 million financial feasibility threshold for runway safety area at JNU. Subsequent to the issuance of the DEIS, CBJ/JNU identified a modified RSA alternative, RSA-5E, as its Proposed Action.</p>

**Table M-2. Summary of DEIS Comments and FAA Responses, continued**

#	Comment Summary/Excerpt	Response
335	<p>Pages 3-18 through 3-21, Section 3.2.2.5, MWSSR Management Plan, and Section 3.2.3, JNU Local Land Use and Authorities: This information is critical for permit and EIS decision-making and should be moved to Chapter 1. The obscure location amid noise analysis in the DEIS is not easy to find and will be missed by the casual reader.</p>	<p>The information is included within the appropriate Section of Chapter 3. However, additional text has been added to Sections 1.6.3.6 and 1.6.3.7 to provide direction concerning these policies. (Add a Section as follows: "1.6.3.7 Mendenhall Wetlands State Game Refuge. The Refuge was established by the Alaska Legislature in 1976 to protect the natural resources of the wetlands in Gastineau Channel. As required by AS 16.20.034(l), management of the Refuge includes provision for expanding the Airport, adding new transportation corridors, and adding publicly-owned and operated docking facilities (ADF&amp;G 1990:8-11). The Refuge Management Plan of 1990 contains the policies that guide how the CBJ may acquire land for these purposes. A more extended discussion of these policies is included in Section 3.3.3.5 of this report." A paragraph has been added at the end of Section 1.6.3.6 City and Borough of Juneau to say "The CBJ Comprehensive Plan (1995 Update) provides for "the orderly development of the Airport to meet the expanding needs of Juneau residents and to provide access for Alaskans to their legislature and state government." Guidelines in the Plan for land use near the Airport are discussed further in Section 3.2.3 of this report."</p>
336	<p>Page 3-203, Section 3.13.1, Section 4(F) Property in JNU Vicinity: JNU staff previously provided written discussion of the history of the EVAR being used as a recreational trail and still believe that this is a misinterpretation of the ADOT 4(f) requirements.</p>	<p>FAA stands by the accuracy of the description as written of the Emergency Vehicle Access Road/Dike Trail. Historical use of the trail, including CBJ improvements to access and ADF&amp;G educational displays about Refuge attributes, confirm its recreational importance. According to the 1995 Juneau Trail Study (Roberds 1997) the Dike Trail is the most heavily used trail in Juneau.</p>
337	<p>Page 3-204, Section 3.13.1.1, MWSSR: We provided written discussion in response to the PDEIS explaining how the State's enabling legislation provides for acquiring land and how the JNU preferred alternative meets the requirements of the legislation. This information must be provided to the public to provide a fair, comprehensive, and accurate background for RSA alternative selection.</p>	<p>This comment response summary serves to disclose CBJ's concerns regards to the Refuge and the acquisition of land from it for Airport actions.</p>



Table M-2. Summary of DEIS Comments and FAA Responses, continued

#	Comment Summary/Excerpt	Response
338	<p>Page 4-28, Section 4.2.13, DOT 4(F) Lands: CBJ and JNU, as the owners of parts of the lands in question, provided written comment in response to the PDEIS that the DOT 4(f) regulations should not apply to CBJ property, due to the owner not having made a determination of significance. Discussion of that determination or lack thereof is not disclosed to the public in the DIES. JNU maintains that neither the Refuge, the Dike Trail, nor the EVAR are DOT 4(f) properties. The Alaska Commissioners of ADOT &amp; PF, ADNR and ADF&amp;G provided a comment letter, sent to FAA on June 27, 2005, that supports our comments. Continued treatment of these lands as subject to DOT 4(f) constraints without addressing the State and CBJ ownership issue and including all appropriate property owners' discussion of relevant Alaska Legislation is misrepresenting the situation, ignoring certain provisions of Section 4(f) and State of Alaska law, and is a serious flaw in this DEIS, which must be corrected in the Final EIS and Records of Decision.</p>	<p>FAA has considered input from CBJ regarding the significance of the Dike Trail. FAA notes that CBJ's Juneau Trails plan cites the Dike Trail as one of the most heavily used trails in Juneau. The trails plan is an indication of the local importance of this recreational resource. Section 3.13.1.2 in the DEIS establishes the importance of the Dike Trail.</p> <p>FAA has considered the input from the State DOT&amp;PF. Refer to the letter of September 9, 2005 from the FAA to Commissioner Mike Barton regarding the basis of FAA's determination that the Refuge is a Section 4(f) property. The key factors considered in FAA's determination were the legislation establishing the Refuge and the Refuge management plan; consultation with ADF&amp;G; information available on the ADF&amp;G wildlife viewing website; and public testimony on the DEIS from the State legislator Sponsoring establishment of the Refuge. Additional language has also been added to Section 3.13.1.2 discussing this issue.</p> <p>FAA is required to independently evaluate 4(f) applicability and significance and has done so for both the Dike Trail and the MWSSGR.</p>
339	<p>Page 4-29, Section 4.2.14, Coastal Zone Management, top paragraph: JNU/CBJ maintains that EMAS may be feasible at other locations but is not prudent economically nor feasible at JNU. This statement should be added. The same comment applies to the Jordan Creek Culvert replacement.</p>	<p>FAA has considered the Sponsor's concerns regarding EMAS and has determined that EMAS is a feasible alternative for JNU.</p>
340	<p>Pages 4-54 to 4-58, Section 4.3.2.1, RSA-1 to Section 4.3.2.6, RSA-8A: Use of 9.4 acres for RSA-1 is given at 0.24% while in next Section (4.3.2.3 RSA-5C), 7.4 acres is given at 0.29% of Refuge land. The percentage calculations should be verified and corrected. 1.8 acres in Alternative 6A is about equal to 0.05% of Refuge acreage.</p>	<p>We concur. Thank you for pointing out these discrepancies. Calculations presented in the DEIS have been reviewed and verified or modified for the FEIS.</p>
341	<p>Page 4-58, Section 4.3.3, Socio-Economic Impacts: The first sentence implies no adverse impacts to air carriers would occur. There would be adverse impacts if EMAS is required to be replaced by an air carrier.</p>	<p>The economic impact resulting from a damaged EMAS bed would be limited to the air carrier, assuming the EMAS is properly maintained. Similarly, if a traditionally RSA was damaged during an aircraft overrun or underrun, the costs would typically be borne by the air carrier.</p>
342	<p>Page 4-84, Section 4.3.8.2, Alternative RSA-5C: JNU proposes to connect Sunny Point Slough to existing sloughs in Miller-Honsinger slough, minimizing adverse impacts from loss of the east runway slough. This connection should be considered for all EMAS alternatives.</p>	<p>Additional analysis has been included in the EIS for this alternative, see Sections 2.11.4 and 4.3.6.</p>

**Table M-2. Summary of DEIS Comments and FAAResponses, continued**

#	Comment Summary/Excerpt	Response
343	Page 4-102, Section 4.3.10.2, Alternative RSA-5C: The first sentence is a fragment.	We concur, thank you for pointing out this error. It has been corrected for the FEIS.
344	Page 4-120, Section 4.4.2, Human Environment & Compatible Land Use: Since RSA-5C is the longest eastward RSA fill alternative, the MALSR impact should be the shortest if this alternative is selected.	The comment is incorrect. The MALSR impact on the Refuge would be greatest for Alternative RSA-5C because the threshold would shift toward the east, causing the MALSR distribution to be shifted further east (and therefore incorporating more Refuge land).
345	Page 4-133, Section 4.5.1, SREF - Noise: The western location may have more noise impacts to Dike Trail users, residents, and commercial operations north of airport property and across the river.	We concur that there could be some slight additional impact to the receptors noted in the comment from a SREF located in the northwest Airport area. As noted in Section 4.5.1, off-Airport noise impacts would be minimal regardless of location.
346	Page 4-139, Section 4.5.7.2, SREF-3B1: A new taxi lane would be constructed for the SREF and Northeast development access, so the TEMSCO taxi lane would not be used as stated on page 4-140.	We concur with the comment, thank you for pointing out this error. The text has been corrected to acknowledge that new taxiways would be developed.
347	Page 4-140, Section 4-5-8, Wetlands: If SREB-1B is constructed in the Northwest Development area, the NW development area footprint would change, possibly affecting more wetlands and vegetation area. This comment also applies to the Sections 4.5.9 and 4.5.10.	The EIS analysis is based on the assumption that facilities layout for the northwest development area would be designed to accommodate the SREF without affecting additional wetlands and vegetation. However, some of the facilities development that could be accommodated in the NW development area without the SREF would have to be shifted to the NE development area resulting in an increase wetlands impacts to the NE development area. Please, see also the responses to Comment Nos. 105 and 111.
348	Page 4-167, Section 4.7.6.1, Common Impacts: The last paragraph states that Zig-zag slough would be eliminated; however, it appears that only the most western portion would be eliminated.	We concur with the comment, thank you for pointing out this error. The text of Section 4.7.6.1 has been corrected to acknowledge that only the western portion of the slough would be eliminated.
349	Page 4-178, Section 4.7.9.1, Alternative FW/RW1: Why would bridges be necessary for the Duck Creek crossings instead of arch pipe culverts, which would be the CBJ/JNU proposal?	The two crossings could potentially be accomplished with large span arch pipe culverts that would function as bridges. Since the Duck Creek corridor in this alternative is narrow, and the crossings are in close proximity, these constrictions could cause backwater that could affect upstream property. Spans of 42 feet are possible with arch pipe culverts, which might function similarly as bridges in limiting or avoiding such possible backwater impacts.

Table M-2. Summary of DEIS Comments and FAA Responses, continued

#	Comment Summary/Excerpt	Response
350	<p>Page 4-204, Section 4.8.7.3, Alternative WH-3: Managing existing infield and adaptive management approach would result in few changes to plant communities. Currently, wildlife monitoring, repulsion and hazing are done by all airfield staff whenever they are on the airfield (a large portion of the time for six employees) with frequent input by the USDA wildlife and airport hazard specialists located at JNU. Additionally, there is continual monitoring by control tower staff from 6:00 a.m. to 11:00 p.m, who immediately report potential hazards to airfield staff by radio or phone. Airfield staff immediately respond to all tower wildlife hazard reports. Tenants also report wildlife hazards to the airfield control officer as they occur. This information was not presented in the DEIS although it was provided by JNU in written and verbal form. Leaving this information out of the DEIS leads to a flawed determination that additional hazing could improve public safety as much as habitat modification.</p>	<p>According to the information provided in writing by JNU, Airport staff does not spend a large portion of their time controlling wildlife hazards, contrary to this comment. For example, using information supplied by JNU and included in the DEIS, Airport staff expends approximately 3.5 man-days per mowing cycle, conducted 4 times per year, to cut infield vegetation. Other portions of the comment are incorrect. The DEIS discloses that staff respond to calls from the Tower or pilots concerning hazards; approximately 150 times in 2004. Other current wildlife control activities at JNU are described in detail in Section 2.5.2 of the Draft EIS. Using the adaptive management approach under Alternative WH-3, active management activities would continue (albeit likely on a larger, more-focused scale) and habitat modifications could be implemented over time depending on the success of active management techniques as determined through monitoring.</p>
351	<p>Page 4-204, Section 4.8.7.3, Alternative WH-3 Adaptive management already is in use at JNU and uses frequent USDA input to address the very dynamic airfield conditions and local and migratory bird use. The Airport Wildlife Control Officer and Airport Manager need immediate and unquestioned authority to address safety concerns at the airport or to make day-to-day decisions regarding such things as hazing activities. An advisory board, who may not be adept at wildlife control at airports, should be cognizant of the facts. Therefore, only three new actions are suggested in WH3: elimination of the hunting program, hiring of full time control officer, and establishment of the advisory group (which as noted earlier already exists). It is unclear how effective these actions will be. It is clear that habitat modification will be effective, based on these kind of actions being done at all the other airports nationally.</p>	<p>As the DEIS clearly discloses, all WHM alternatives would retain the authority of the Airport Wildlife Control Officer/Airport Manager to address day to day safety concerns and implement active management techniques such as hazing. An advisory board would serve to provide input on aspects of wildlife hazard management for which members have individual expertise, such as wildlife behavior and local movement patterns. The wildlife hazard advisory board's input would complement the Airport's expertise and efficacy in controlling wildlife hazards.</p>
352	<p>Appendix One: Cost Estimates for EMAS alternatives should include the compacted gravel bed required for EMAS installation, the ESCO and Cordova airport EMAS cost quotes, and updated life cycle cost to be complete, accurate, and to allow for a fair comparison to the non-EMAS alternatives.</p>	<p>As noted in previous comment responses, the cost for compacted gravel bed is included in Tables A-1.3, A-1.4, and A-1.5 of Part II of the JNU DEIS (see description for item 13 in each table). In addition, the note for item 29 in each table will be revised to reflect D-1 base course costs. The Cordova EMAS cost estimates are not relevant to the JNU cost estimates since costs of EMAS installation are site-specific.</p>

**Table M-2. Summary of DEIS Comments and FAA Responses, continued**

#	Comment Summary/Excerpt	Response
353	<p>Essential Fish Habitat Consultation: The FAA and SWCA noted in a June 3, 2005, meeting in Juneau with CBJ, JNU, and the regulatory agencies conducting the concurrent permit reviews that some elements of the ESH (sic) were written in the DEIS as if they were requirements of the agency responsible for ESH consultation (NMFS). In response to JNU staff, NMFS, and other agency questions, the consultant noted that the bulleted items in the Consultation Section, which appeared to be authored by the responsible agency, were in fact authored by FAA and SWCA, and not NMFS. It is critical that the public be notified of this inaccuracy and that it be corrected in the Final EIS.</p>	<p>The comment is not correct, in that no such presentation to agencies was made that the EFH elements were written as if they were requirements by NMFS. The EIS team did acknowledge in the meetings that some components listed as mitigating elements had not been agreed to by FAA or CBJ and are therefore in error. There was no representation that the EFH or BA was authored by NMFS. The first paragraph of Appendix I, in Section I.1, clearly states "this EFH Assessment/Biological Assessment has been prepared by FAA in conjunction with this EIS."</p>
354	<p>The durability of an EMAS bed in Southeast Alaska climate conditions is unproven.</p>	<p>EMAS has been installed at a number of airports that experience high levels of humidity and temperature extremes, including JFK in New York and MSP in Minnesota. The technology has proven to be successful in the arresting of three (3) aircraft (i.e., a B-747 and MD-11 cargo aircraft, and a SAAB 340 commuter aircraft) at JFK, which experiences cold wet winters within a marine environment. These aircraft arrests are credited with saving both lives and ten of millions of dollars in aircraft equipment.</p>
355	<p>There is a high cost to replace EMAS beds if this unproven material fails.</p>	<p>Please see response to Comment No. 64. The life-cycle analysis presented in the EIS (see Sections 2.6 and Appendix A) include replacement of EMAS once during a twenty year lifespan.</p>
356	<p>There would be high ongoing maintenance costs at JNU to ensure EMAS functionality.</p>	<p>FAA disagrees that the cost estimates developed by JNU and CBJ and included in the permit applications are accurate. For example, as stated in a June 16, 2005 letter from the FAA to Mayor Botelho, "The costs to replace/repair the EMAS bed due to damage from an accident would not be part of an airport's annual O&amp;M budget". In addition, "FAA offers a 5-year warranty provision for EMAS, through the Airport Improvement Program (AIP) grant funds, that would substantially reduce annual inspection costs to JNU". AIP grant funds are also eligible for the purchase of specialized snow removal equipment that can be used on the EMAS bed, which would eliminate the higher costs associated with the rental of this equipment. In addition, the Airport's annual O&amp;M budget should not include a budget for periodic EMAS block replacement, as this item would be covered under the 5-year EMAS warranty provision. Also, a 5-year maintenance agreement would be included in the contract and the AIP for eligible maintenance equipment, which would</p>

**Table M-2.** Summary of DEIS Comments and FAA Responses, continued

#	Comment Summary/Excerpt	Response
356	<i>(continuation of response to comment)</i>	reduce costs. In summary, it appears that the permit applications and this comment overestimated maintenance costs associated with EMAS alternatives. FAA does acknowledge, however, that cost of maintenance for an EMAS RSA will be higher than for a standard RSA but will vary depending on location and type of season they may have from year to year. FAA Order 5200.9 and Advisory Circular 150/5220-22A provide general guidance on maintenance and maintenance costs, which were used in the EIS analysis.
357	There is a potentially excessive timeframe for EMAS bed repairs, which compromises runway safety.	Please, see the response to Comment No. 74. In addition, the projected timeframe for the EMAS bed repair at JNU would likely be dependent upon the time of year that the damage occurs due to seasonal construction windows. However, the remaining undamaged Sections of the EMAS bed system would offer substantial RSA benefits during the interim repair period.
358	The operational impact of EMAS bed repair is unacceptable for a single-runway airport.	Please, see the response to Comment Nos. 357 and 74. FAA believes the relatively minor operational impact incurred until the arrested aircraft is removed from the EMAS is minor compared to the potentially life-saving benefit offered by the system.
Craig		
41	Duck Creek is dry and has been, but don't declare it a nonexistent stream; one of the things it will guarantee, hopefully, is a greenbelt that is a buffer between the Airport and neighborhood for sound attenuation.	Relocation/restoration design of Duck Creek is based on transport function not salmonid habitat. CBJ setbacks from streams would be applied, and the corridor should help to buffer Airport noise from communities.
42	If Duck Creek is relocated near the outfall of the sewage treatment plant, you may have sewage running back up the stream into neighborhoods. We have tides that will flush things back up.	The Duck Creek mouth is outside of the regulatory mixing zone and by definition meets State water quality standards. This clarification will be added to the FEIS.
43	It is important not to intrude into the Mendenhall River. It is a dynamic river body, and anything that protrudes into river can really do some damage to homes and bridges upstream. August's erosion issues showed that upstream impacts can be significant.	FAA concurs that any changes to the Mendenhall should take into account possible upstream impacts. Hydraulic and geomorphologic analysis were performed for the Mendenhall River as part of the FEIS and are included in Appendix K.

Table M-2. Summary of DEIS Comments and FAA Responses, continued

#	Comment Summary/Excerpt	Response
44	Eagle Beach is too far away. I recommend purchasing the land between Temsco and Sunny Point. This will preserve the land, and make for a nice view downtown.	The proposed compensatory mitigation plan has been revised, and Eagle Beach property is no longer included in the package. Thank you for the suggestion, the potential for adding lands to the Refuge is being explored and has positive feedback from several agencies. A process for compensatory mitigation has been approved for incorporation into a Compensatory Mitigation Plan, to be included with the final project permits. Section 2.12.3 of the FEIS includes a summary description of this process.
45	The dike trail is important. Try and keep open as much as possible during construction. I appreciate how accommodating the Airport was in March.	Thank you for the comment. The Dike trail would remain open to the public during construction when work would not create a safety risk to hikers and there would be no chance of disruption to construction crews.
46	The landfill a reason for bird movement across Gastineau Channel. We do not have incinerator.	The landfill should be investigated to determine if birds attracted to the facility are adversely impacting flight safety. Birds attracted to the landfill provide an example of the dynamic nature of bird hazard management at any airport, but is not a consequence of proposed actions at the airport nor is it within the scope of this EIS to evaluate the concerns expressed.
47	The fingers of the float pond are better to put trees into, not take out of. They attract low flying waterfowl as is. Trees would provide a greater level of safety.	Filling the fingers of the float pond would reduce attraction to waterfowl in those areas directly impacted by the fill. However, this may simply push waterfowl further out into areas of the pond where there is greater aircraft activity.
48	The thicker the trees, the more they are going to keep out birds of concern.	Thick stands of trees often create roosting habitat for birds such as crows. Even though crows are not high on the ranking of relative risk, this does not suggest that these birds pose no threat to aircraft safety. Adaptive management of the forested area would help to achieve reduction of as many species of concern as practical. Thinning is not included in FAA's preferred alternative in the DEIS.
49	A deer fence needs to be continuous all the way around the airport. They do come in from north as well.	FAA concurs that to be most effective, the deer fence should be continuous around the Airport. There is a security fence providing this protection for much of the north and west perimeter of the Airport; the proposed deer fence along the south perimeter will provide Airport security and help to keep deer from entering the woodlands from the Refuge. However, installation of a security or deer fence on the east Airport perimeter is not feasible as the tidal surges and heavy ice scouring would quickly destroy fence integrity.

**Table M-2. Summary of DEIS Comments and FAAResponses, continued**

#	Comment Summary/Excerpt	Response
183	The airport cannot circumvent the need to meet state and federal requirements in the transferring of Refuge tidelands to the airport.	The Airport does not need the property in question to accomplish the proposed actions being evaluated in the EIS. FAA has attempted to keep as much disturbance on the Airport as possible to minimize damage to surrounding environment.
184	The airport has asked that a large amount of land be transferred under a speculative basis. The airport claims it will "give back" any land that is unused. That proposal fails to meet the proper means of conveying land or of permitting projects. It is more appropriate to wait for a Record of Decision.	Thank you for your comment. The Airport's/CBJ's request for land is outside the scope of this EIS.
185	Past wildlife control practices at the Juneau Airport have had mixed results. The best control is that delivered by onsite staff who target troublesome wildlife rather than automated control that geese ignored after a couple of days. While hands-on wildlife management is more work-intensive, it produces results that can improve safety. Pavement is not the solution to bird problems; I have seen goose scat on the taxiway asphalt. Careful active management is the best method for maintaining a clear and safe airfield. Extreme care must be taken, however, to not flush birds into oncoming flight traffic. I have witnessed this more than once when airport staff have hazed birds. Once the birds are in the air, their movement can be unpredictable.	The JNU wildlife management program identifies both habitat management and active control procedures. Properly trained and experienced control staff should experience success in dispersing birds and other wildlife species without increasing risk to air traffic. Hazing efforts should always be conducted with coordination with the air traffic control tower.
186	The woodland serves as a valuable natural barrier that blocks waterfowl movement from the wetlands and Refuge to the airport. The soil in the woodland allows spruce trees to grow thick branches that extend fully down the tree's trunk to touch the ground, unlike many other forested zones where the lower limbs atrophy due to lack of light or other conditions. The lower limbs should not be trimmed. Vancouver Canada Geese would find the terrestrial area too attractive if that was done. Moreover, the trees should not be thinned. Rather, the woodland should be augmented to grow more dense to prevent waterfowl from resting or feeding there.	The management of the woodland area surrounding the float pond includes a phased approach to managing bird species of concern. This may include the selective thinning of some of the trees in the wooded area should other control methods fail. As long as fencing is installed to reduce access to deer the low-lying vegetation will not be disturbed. Thinning of under story would only be implemented if deer have access to the area. Thinning of trees and the understorey is not part of FAA preferred alternative.

**Table M-2.** Summary of DEIS Comments and FAAResponses, continued

#	Comment Summary/Excerpt	Response
187	Nature provides a safe solution with the woodland; we should expand the protections offered by the natural barrier by filling in areas that are presently open. Waterfowl use the finger ponds as aerial corridors to fly between the floatpond and the Refuge. The majority of the birds do not continue north across the airport, but stay in the finger ponds and floatpond perimeter.	Filling of the finger ponds may reduce waterfowl usage, however, some birds may simply move closer to the areas used by float planes. There is no empirical evidence that the trees present a physical barrier to bird movements.
188	Fill the Float Plane Pond fingers, don't dredge them. Plant the area with species that waterfowl don't like, such as dense willow, cottonwood and spruce. Filling will eliminate pond weed and improve safety better than dredging.	Filling the finger areas may reduce waterfowl usage, but may also limit aviation use of the float pond by reducing the potential dock space. The improvement in safety by filling rather than dredging is not clear. However reducing available food should assist in reducing waterfowl without limiting future use of the pond for aviation activities. FAA concurs that post-habitat vegetation needs to be carefully determined so that other species of wildlife that could be hazardous to aviation are not attracted. Material dredged from the Float Plane Pond would also supply fill material for construction of the proposed projects.
189	The relationships between citizens and the airport have led to better safety and money savings through volunteer efforts. We can continue working [on wildlife hazard issues] through formalized groups. Juneau has many qualified citizens who could serve as advisors.	We concur that there are many possible benefits to establishment of a wildlife hazards working group that includes local citizens with knowledge of animal behavior and the Refuge, with state, federal and Airport officials. Also see the response to Comment No. 119.
190	Relocating Duck Creek gives us a chance to improve it. A woodland buffer needs to be retained on both sides, will screen the airport, maintain the existing greenbelt, and assist in blocking noise.	There is a variable width buffer on both sides of Duck Creek that will help screen the Airport from communities and retain a "greenbelt." The vegetated buffer may also assist in blocking some Airport noise, but most vegetation has a limited function in blocking noise unless they include berms or other large mass to absorb or deflect sound.
191	Moving Duck Creek closer to the Treatment Plant could create a problem in that the effluent discharges into the river and could cause poorly treated sewage to flow upstream in Duck Creek. This must be prevented and monitored regularly.	The proposed location for the Duck Creek mouth relocation is outside the regulatory mixing zone and by definition meets State water quality standards. This clarification was added to the FEIS.



Table M-2. Summary of DEIS Comments and FAA Responses, continued

#	Comment Summary/Excerpt	Response
192	The Airport has spend public funds to prematurely submit permit applications for a high-impact proposal prior to the selection of a preferred alternative. Premature permit filing is creating duplicative work for many agency personnel by forcing the Airport's alternative to be reviewed before a final alternative has been identified through the legitimate public NEPA process. This wastes money and time and front loads one alternative over others. The permit application process should be halted until a preferred alternative that minimized impacts is selected.	FAA believes that the timing of CBJ's permit applications was appropriate and consistent with federal guidelines for streamlining. The Council on Environmental Quality (CEQ) regulations (40 CFR 1500.4) encourage the reduction of paperwork while still demonstrating compliance with NEPA and other applicable environmental laws. CEQ encourages Federal agencies to reduce delay by integrating NEPA requirements and those associated with permitting. Initiating the permitting process during the FAA's NEPA process is not inconsistent with CEQ guidelines. This also is consistent with the streamlining provisions in Vision 100.
193	It is my understanding that the Airport hired a consultant to discredit EMAS. The consultant's report/correspondence has not been made public. The correspondence should be published to that the public—whose money has already been spent on a private consultant for the airport—may have access to the information. Furthermore, kindly reveal how much money has been spend on the city's EMAS consultant contract.	As of the time these responses were being prepared, CBJ had paid it's permitting consultant \$331,866 and estimated that an additional \$80,000 will be needed to complete the permitting process (January 2006). FAA does not have a record of the amount CBJ paid to it's consultant to represent JNU's EMAS concerns however.
194	Maintaining established surface water flow patterns...is important for fish and wildlife that use areas beyond the airport boundary. Any dredging or filling...must preserve the stream and slough recharge routes that provide nutrients to fish using Fritz Cove, Lynn Canal, and Gastineau Channel.	Thank you for your comments. Additional hydrologic analysis has been performed for the FEIS to consider these issues in more depth. Please, see Sections 2.6, 2.11, and 4.3.6.
195	Jordan Creek is an important source of salmon rearing habitat and should be preserved by bottomless arch culverts and other efforts.	FAA recognizes that Jordan Creek provides a valuable fishery. FAA and the resources agencies responsible for permitting within Jordan Creek concur that bottomless arch culverts are more conducive to fish passage.
196	NEPA policies demand careful analysis before action is taken. The Airport's "jumping the gun" approach fails to adhere to proper practices for following regulations about project development.	Thank you for your comment. FAA believes that the EIS and permitting procedures will ensure that all actions taken are in accordance with federal, state, and local regulations. Refer to the response to Comment 192.
Duck Creek Advisory Group		
386	We do not believe that all possible steps to minimize storm water runoff will comply with the current TMDLs on Duck Creek and Jordan Creek and further degradation will likely occur.	Permitting agencies will determine what steps should be taken to prevent and minimize degradation of receiving waters consistent with the TMDLs.

**Table M-2. Summary of DEIS Comments and FAA Responses, continued**

#	Comment Summary/Excerpt	Response
387	<p>The proposed relocation and reconfiguration of Duck Creek in the DEIS is unacceptable. A new proposal that enhances the stream, maintains wetland function, and minimizes the proposed development should be developed. Because Duck Creek is a 303(d) listed impaired waterbody, any work in Duck Creek must be consistent with TMDLs and should not further degrade water quality. We object to activities within the WH-1 and WH2 alternatives, which fill or regrade the estuarine wetlands at the mouth of Duck Creek, both within and outside the Airport property.</p>	<p>The proposed relocation is consistent with TMDLs by using a liner to isolate iron-saturated groundwater and by facilitating transport and minimizing dewatering. Dissolved oxygen issues should be improved by the proposed design. FAA acknowledges the comments concerning fill in estuarine wetlands at the mouth of Duck Creek.</p>
388	<p>It is not clear in the DEIS that adequate compensatory mitigation has been developed to account for the unavoidable impacts of all of the actions on the streams and the loss of high-functioning estuarine wetlands that will occur.</p>	<p>FAA concurs with this statement. A revised compensatory mitigation plan is being developed that fully mitigates unavoidable losses to wetlands as well as for impacts to streams and other habitat. Please, see Section 2.12.3 of the FEIS for a summary description of the draft Compensatory Mitigation Plan.</p>
389	<p>We do not support the idea of mitigating estuarine wetlands with off-site uplands. We recommend the EIS team more fully form a mitigation plan that includes creation, restoration or protection of estuarine wetlands, freshwater wetlands, or stream corridors along Gastineau Channel or within the Mendenhall Valley.</p>	<p>Please, see the response to Comment No. 388. The current mitigation proposals focus on adding lands to the Refuge and preserving other lands via an in lieu fee agreement with SEAL Trust. The amount of compensation is based on functional capacity units impacted and on an agreed upon mitigation ratio. Please, also refer to the response to Comment No. 333. Section 2.12.3 of the FEIS includes a summary description of the draft Compensatory Mitigation Plan</p>
390	<p>The Jordan Creek culvert has been identified as a mitigation opportunity by replacing the entire 700-foot crossing with an arch structure. This structure should be modeled to determine the degree of fish passage benefit if it is to be considered mitigation.</p>	<p>Replacement of the culvert system is to reduce environmental impacts associated with lengthening the culvert. Mitigation for Jordan Creek impacts is being considered as part of the proposed compensatory mitigation plan. Section 2.12.3 of the FEIS includes a summary description of the draft Compensatory Mitigation Plan.</p>
Gaffney		
5	<p>Replacement of the entire culvert with a bottomless arch culvert or bottomless box culvert represents an unnecessary expense, operational concerns due to closing runway during construction, unknown design challenges to safely support large aircraft, and potentially harmful consequences to the anadromous fishery resources in Jordan Creek.</p>	<p>FAA disagrees with some of these comments, and has already disclosed others in the DEIS. Costs to install a bottomless arch culvert system in Jordan Creek are disclosed in Section 2.11.3. The DEIS acknowledged the potential for operational disruptions, and for this reason recommended that culvert replacement should occur at the time of the next runway rehabilitation, when normal aviation operations will be disrupted and re-directed to the main taxiway. The conceptual design for the bottomless arch culvert was developed using the loading from a 737-900. Similar arch culverts have been used at, for</p>

Table M-2. Summary of DEIS Comments and FAA Responses, continued

#	Comment Summary/Excerpt	Response
5	<i>(continuation of response to comment)</i>	example, George Bush Intercontinental Airport, TX; Buffalo Niagara International Airport, NY; and Clinton County Airport, OH - an Airborne Express international hub. There may be short term adverse impacts on aquatic resources caused by replacement of the Jordan Creek culvert under the runway. However, state and federal agencies with expertise to protect, preserve and manage fisheries agree that culvert replacement is the appropriate action to minimize long-term effects on aquatic life in this area of Jordan Creek. See for example Comment No. 364.
6	The DEIS does not adequately address wildlife hazards at JNU. The analysis insufficiently developed to be used as analytical tool for assessing wildlife hazards or developing management actions. Active wildlife hazard control methods should not be considered an acceptable substitute for eliminating attractive habitat. The DEIS implies repeatedly that an increase in active wildlife control measures to offset the lack of habitat modification is an equal exchange that would maintain risk at an acceptable level. This is inconsistent with understanding of wildlife hazard management, which is rooted in habitat management. Should look first at habitat mgt, then exclusion, and repulsion, and as a last resort, removal.	The EIS analysis is based on the wildlife hazard assessment conducted by the USDA Wildlife Services and addresses every issue raised in that assessment. The risk assessment matrix was developed to provide an unbiased ranking of potentially hazardous bird species based upon national strike data and local survey data. While there is no standardized methodology for conducting these reviews, none of the independent reviewers suggested that the method was fatally flawed in concept or implementation. The notion that active control methods should not be considered an acceptable substitute for eliminating attractive habitat operationally impractical. Active control methods are internationally recognized and implemented to control wildlife when habitat management is impractical or impossible. Further, habitat management/modifications often reduce attractiveness to one species of bird while attracting others. Wildlife management at airports is a dynamic process including both habitat management and active control, a practice recognized in the EIS. The comment is incorrect that the EIS implies an equal exchange between habitat modification and hazard management. Section 2.5 of the EIS specifically recognizes that the "relationship between habitat modification and active management is not linear or constant." The aggressive habitat management objectives proposed at JNU are expensive and invasive, without definition of desired outcomes and the species that would use the new habitat or the risks these species would present to aviation. This is especially notable given that JNU's existing wildlife hazard management program has relatively little active control efforts, a fact recognized in the USDA's reports that recommend more staff be applied to the program.

**Table M-2.** Summary of DEIS Comments and FAA Responses, continued

#	Comment Summary/Excerpt	Response
7	<p>There are several conceptual and mathematical flaws in the risk matrix model. These are pointed out in the comments in Appendix B. The risk matrix included only 21 of the 58 species, identified at the airport. Several significant species, like deer and trumpeter swans, are left out of the risk model entirely. 17 strikes have occurred since the model was developed; at least 4 involved species not even listed in Table 2-10, and 2 involved the Northeastern crow, the 2nd most commonly observed bird crossing the runway. A bad model should never trump the on-the-ground experience of JNU's staff.</p>	<p>There are no mathematical flaws in the model. The model is based upon several assumptions that are clearly defined and the mathematics are simple arithmetic functions carried out in a spreadsheet format. The table (2-10) only lists those species whose risk calculation was 1 or higher, all species that had been observed during the USDA surveys were processed through the model. Runway crossing data were not provided by the USDA and as such could not be used in developing a risk model. The model was not developed to predict strikes, nor was it developed to be used in a vacuum. The model, however, does rate the potential risk associated with crows as lower than many other species due to the relatively low numbers that have been hit nationwide, and the relatively low damage incurred when such strikes are reported. The two strikes with northwest crows reported since the model was developed are not inconsistent with the model.</p>
Gordon		
38	<p>The greater cost of EMAS is fair tradeoff for the least possible degradation to the Refuge. The cost differential is more than justified by the greater degree of habitat protection that would be maintained.</p>	<p>The minimization of wetlands disturbance both inside and outside of the Refuge is an important regulatory criteria for the FAA in the evaluation/screening of the RSA compliance alternatives.</p>
39	<p>I support the FAA recommendations to treat the Refuge as Section 4(f) lands with the most stringent environmental protection. The Refuge is only 1 of 3 major waterbird stopover and refueling areas in Southeast Alaska. There just aren't that many choices.</p>	<p>Thank you for your comment. We concur that the Refuge qualifies as a Section 4(f) land.</p>
40	<p>In the area of proposed runway extension, there are many tiny pools scattered among the grass, it is my strong suspicion (from observation) this is crucial feeding area during the southern migration of birds.</p>	<p>It is unclear whether the comment refers to the east end of the runway, the west end, or both. The wetland function assessment identified high marsh habitat on the east end of the runway as having very high wildlife value. Those on the west end were rated as having high wildlife value. These functions were taken into account in both the wetlands and wildlife impact analyses for RSA alternatives (Sections 4.3.8 and 4.3.10).</p>

**Table M-2.** Summary of DEIS Comments and FAAResponses, continued

<b>Comment Summary/Excerpt</b>		<b>Response</b>
#	<b>Response</b>	
Hegg		
1	[EMAS] has been proven...in cold place like MN and NY and has actually stopped planes of the size we have coming in here...	According to information provided by the manufacturer, Engineered Arresting Systems Corporation (ESCO) a total of fifteen (15) EMAS systems have been installed within the U.S and five (5) more are under contract. Six of the existing EMAS installations are located within cold winter climates (i.e., JFK, Rochester, Binghamton, & Poughkeepsie, New York; Hyannis, Massachusetts; and Minneapolis/St. Paul, Minnesota). Also, three of the installations under contract are located within cold weather climates (i.e., La Guardia, New York and Boston, Massachusetts).
2	We could get ourselves in a world of hurt trying to keep that river open because of the way it moves, so that is maybe a more serious problem.	Thank you for your comment. FAA concurs that construction into the Mendenhall River would present substantial challenges, and potentially cause erosion and/or deposition in upstream portions of the river.
3	The wetlands are truly unique and have enormous social, recreational, and economic value.	Thank you for your comment. FAA concurs that the Mendenhall wetlands have unique natural attributes of significant value.
4	It seems like [extending runway] is going to have considerable impact on fish breeding grounds and if we go too far out in the river that is going to affect the fishing and migration up to the Mendenhall River.	Impacts to essential fish habitat (EFH) that would occur under the various RSA alternatives are described in Section 4.3.9 and summarized in Table 4-39 of the Draft EIS. Under RSA-1, the Mendenhall River would be realigned to the west and would retain the existing fish access and habitat characteristics of this reach.
99	I spoke in support of EMAS, and have since heard about the Airport Board's "compromise solution" (installing a temporary extension long enough to accommodate EMAS, while testing continues elsewhere). This makes sense. In 5 years, EMAS will have been tested under conditions relevant to Juneau, and improvements may have been made. In the meantime, shorter fill would provide an additional safety margin.	Thank you for your comment. FAA understands the Airport Board's proposal. FAA has determined that EMAS "provides a level of safety that is generally equivalent to a full RSA constructed to the standards of AC 150/5300-13 for overruns" (FAA Order 5200.9). Further, the EMAS would be subject to periodic inspection, maintenance and repair. If EMAS failed due to weather conditions, the FAA would reevaluate the need for a standard RSA. Finally, the Airport Board's proposal does not meet FAA RSA standards. Since the issuance of the Draft EIS, both the Airport and the FAA have offered modified RSA proposals (RSA-5D, RSA-5E, and RSA-6D) that meet FAA RSA standards and that are analyzed in the Final EIS.  FAA has determined that Alternatives RSA-6A and -6B, which incorporate EMAS on both runway ends, are not prudent based on cost since these alternatives are approximately 2.5 times the cost of traditional fill RSA alternatives and exceed FAA's \$30 million financial feasibility threshold for runway safety area at JNU.

Table M-2. Summary of DEIS Comments and FAA Responses, continued

#	Comment Summary/Excerpt	Response
99	<i>(continuation of response to comment)</i>	In December 2006, Congress enacted Public Law 109-433 (Section 10), which requires that the Secretary of the U.S. Department of Transportation select the RSA alternative that is the least expensive but still meets FAA standards and does not shorten the useable runway length. This legislation requires selection of an RSA alternative based on cost, runway length, and FAA standards, and not the level of environmental impact. EMAS technology is more expensive than traditional fill. As such, RSA alternatives using EMAS (such as RSA-6A, RSA-6B, and RSA-6C) may not be selected in the Record of Decision.
Heuseisen		
35	I strongly support the MALSR alternative as it is the only one action alternative which meets purpose and need. It would allow the Airline to further reduce its minimums for approaches, thus reducing flight delays. It would also result in much easier alignment for aircraft approaching from the east at night. Wetland impacts for installation and maintenance of the MALSR would be minor.	Thank you for your comment. The MALSR will meet the stated purpose and need for navigational alignment.
Honsinger		
8	In 1986 the Assembly passed an ordinance for obtaining ownership of 80 acres we (Honsinger) own adjacent to the airport for mitigation purposes for future development of the airport. The ordinance clearly states that CBJ is interested in obtaining ownership of the land. It is hard to find a reason for not expanding the airport to pick up this acreage. CBJ should look into this.	The Airport does not need the property in question to accomplish the proposed actions being evaluated in the EIS. FAA has attempted to keep as much disturbance on the Airport as possible to minimize damage to surrounding environment. Acquisition of this property is not included in the Sponsor's draft mitigation plan.
Hood		
29	I am concerned about the wetlands intrusion of the proposed [moderate] approach lights to the east and any road to service them. There needs to be more thought and a more creative solution.	A solution was proposed previously using the dredge spoil islands as the primary access earlier, but concerns about the cost of a culvert crossing of the East Runway Slough contributed to changing the MALSR road configuration.
30	A City Parks and Recreation Department trail survey revealed that [the dike trail] was the most used trail by the Juneau public.	This comment is consistent with the analysis in the DEIS.
31	There has not been any significant damage from bird strikes here.	There have been several reported strikes that have resulted in damage to aircraft at JNU.

Table M-2. Summary of DEIS Comments and FAA Responses, continued

#	Comment Summary/Excerpt	Response
32	Hunting on the airport property ought to be eliminated.	Hunting programs for wildlife control must be carefully coordinated and controlled through the air traffic control tower. Uncontrolled hunting may actually increase bird strike risk. Consequently, eliminating the on-Airport hunting program has been included as a component of Alternative WH-3 and recommended by FAA.
33	The border of trees provides a protective barrier for the runways.	The trees do provide a barrier, but not necessarily for bird movements. They undoubtedly serve as a barrier to visual observations. Refer to the responses to Comments 10 and 11.
34	Regardless of ponds, trees, wetlands and accompanying wildlife, our airport has a history of being safe.	JNU has had a number of damaging wildlife strikes. The WHMP is intended to enhance safety at the airport
Juneau Chamber of Commerce		
173	Very little testing has been done to date of EMAS in a high rainfall climate similar to what we have in Southeast Alaska. In the test done by FAA at the U of Alaska, EMAS failed drastically. It may have been a poorly conducted test, but the bottom line is that the material did not even hold up for one year. More thorough testing is needed.	EMAS has been installed at a number of airports that experience high levels of humidity and temperature extremes, including JFK in New York and MSP in Minnesota. The technology has proven to be successful in the arresting of three (3) aircraft (i.e., a B-747 and MD-11 cargo aircraft, and a SAAB 340 commuter aircraft) at JFK, which experiences cold wet winters within a marine environment. These aircraft arrests are credited with saving both lives and ten of millions of dollars in aircraft equipment.  The testing done by the University of Alaska is not relevant to the discussion because it did not evaluate EMAS as a system (i.e., standard installation procedures were not utilized). The blocks were placed outside, exposed to the elements with no side coatings, backer rods, caulking or vents, and no tack coat asphalt was used between the bottom of the blocks and the pavement to prevent groundwater intrusion. All of these design components are critical to a proper EMAS installation.
174	EMAS will cost much more than traditional fill, will create and O&M burden (financial and workload), and will need to be replaced on some as yet undetermined schedule...we anticipate the replacement cost at JNU to be \$10 million. Our alternative would be cheaper, quicker, require minimum grading infrequently and would last indefinitely.	We concur that EMAS alternatives would be more expensive and labor intensive to install and maintain than RSA alternatives. Further, EMAS would require infrequent replacement. The drawbacks and benefits of EMAS and RSA alternatives are clearly disclosed in Chapter 2, Sections 2.2 and 2.6 of the EIS.

Table M-2. Summary of DEIS Comments and FAA Responses, continued

#	Comment Summary/Excerpt	Response
175	Quote from Ryan King, FAA? (format of email unclear)... "Application of EMAS should not be considered a prudent alternative. The newness of the technology, while apparently successful in another location, raises questions about its efficacy here. FAA admits testing is ongoing testing at Fairbanks but has yet to be reported. Early indications of the UAF test do not support the idea that the material will work in Alaska, rather just the opposite."	Testing done by the University of Alaska is not relevant to the discussion because it did not evaluate EMAS as a system (i.e., standard installation procedures were not utilized) complete with side coatings, backer rods, caulking or vents or tack coat asphalt. All of these design components are critical to a proper EMAS installation.
176	Quote from Ryan King, FAA? (format of email unclear)... "The cost of EMAS can in no way be considered competitive with the traditional fill embankment RSA. An alternative which has life cycle costs several times higher than other alternatives cannot be considered prudent, that is, using good judgment or common sense."	As is fully disclosed in the EIS, EMAS would cost approximately 2.5 times a standard RSA alternative to install and maintain over a 20-year lifespan.
177	The desire to use EMAS to avoid minimal impacts to wetlands and the Refuge, impacts that can be clearly and completely mitigated, is shortsighted. The State of Alaska clearly recognized that at some point these lands would be needed by the airport. The State of Alaska should have the final say in how the Refuge wetlands will be used and indications are the State is very supportive of the Airport's preferred alternative.	Thank you for your comment. FAA concurs that the legislation creating the Refuge anticipated the potential need for Airport expansion into the Refuge (as noted in Section 3.13.1 of EIS). However, the State's Refuge Management Plan also establishes conditions that must be met for the expansion to occur (see Section 4.3.13.7). In addition, the comment does not recognize that other federal law, specifically the Clean Water Act, requires the use of the least damaging practicable alternative to avoid adverse impacts to wetland and waters of the U.S.
178	The State of Alaska is going to be installing EMAS at Cordova. This installation could provide the test the FAA once thought was a good idea. To install EMAS at JNU prior to the Dayton test or a test installation at Cordova is a decision driven by something other than fiscal responsibility and a concern for the safety of the traveling public.	FAA does not consider the planned EMAS installation at the Cordova Airport a test. Ongoing research and development to improve EMAS does not indicate that FAA believes that EMAS is not a proven technology. There are numerous examples of ongoing R&D of commonly used construction materials and products such as pavement materials. Please, see also the response to Comment No. 200.
179	The DEIS does not adequately address the wildlife hazards at JNU. This inadequate analysis leads to a flawed decision-making process for basing alternatives to manage wildlife hazards. We believe this flawed process not only makes it more difficult to effectively manage wildlife hazards, but that it also gives the Juneau public inadequate information from which to understand the safety risks posed by all wildlife that frequents the airport.	The DEIS includes a review of work conducted by USDA following a year long assessment at JNU. The study provided reasonable information for development of a wildlife management plan. The review simply used the national experience to rank the species of concern and their associated habitats relative to aircraft movement areas. The WHA and WHMP at JNU was accepted by the FAA certification inspectors and approved for implementation using FAA standards. FAA is confident that the EIS provides an adequate analysis and full disclosure to the public the safety concerns associated with wildlife hazards at the Airport.



**Table M-2. Summary of DEIS Comments and FAA Responses, continued**

#	Comment Summary/Excerpt	Response
180	[Wildlife hazard management] needs maximum flexibility in order to deal with hazards as they arrive. Techniques may need to change from time to time and cannot be subject to a process as cumbersome and time consuming as NEPA has become. While discussion of active techniques may provide interesting background, it should not be mandated through an FEIS or Records of Decision. The NEPA process should be limited to the pros and cons of permanent changes to the environment. Managers of airports must be respected as the ultimate experts with regard to wildlife hazard management.	Active control is an integral part of any comprehensive wildlife management program and has a direct impact on the airport ecosystem. CEQ regulations do not limit NEPA analysis to permanent changes to the environment. There is no reason to exclude parts of the wildlife management plan from review under NEPA as part of FAA's federal obligation to consider less damaging alternatives that meet purpose and need.  The airport is mandated to address wildlife hazards on the airport, however, the FAA is not mandating how they accomplish this. FAA agrees with the need to have flexibility in how to address wildlife hazards. In accordance with 14 CFR 139.337(d), JNU is responsible for development of the plan and its implementation, including the need to take immediate measures to alleviate wildlife hazards whenever they are detected.
181	The DEIS implies, repeatedly, that an increase in active wildlife control measures to offset the lack of habitat modification is an equal exchange that would maintain risks at an acceptable level. This concept is inconsistent with a sound understanding of wildlife hazard management, which like conventional wildlife management, is rooted in habitat management. In wildlife hazard management, first look at habitat management, then exclusion, repulsion, and as a last resort, removal. In general, "active wildlife hazard control methods" should NOT be considered an acceptable substitute for eliminating attractive habitat. (Page 2-77). However, in the DEIS on page 2-106, the grouping of alternatives into actions may leave some reviewers with the impression that wildlife hazards can be effectively reduced with either alternative. The Juneau Chamber does not believe this is the case.	Wildlife management at airports worldwide includes both habitat management initiatives and active control programs. The balance between these methods is highly dynamic across the nation and on any given airport. There is no suggestion that there is ever an "even trade" between habitat management and active control. Please, also see the response to Comment No. 6.
182	We strongly urge the exclusion of any limitations or required actions dealing with active management or the requirements for "committee formation" from the FEIS and the Records of Decision.	FAA believes that improvements can be made to the wildlife hazard management program, as noted in Section 2.13.6. Also see response to, for example, Comment No. 119 as to why a wildlife hazards working group including local expertise and stakeholders is a recommended action.
Juneau International Airport Board		
17	The proposed location for the SREF (SREF 3B1) has good access, room for expansion, minimal interference with other airport activities, and insignificant environmental impacts.	Thank you for your comment. The benefits of the proposed location for the SREF are presented in Sections 2.4.1.3 and 2.13.3.

**Table M-2.** Summary of DEIS Comments and FAA Responses, continued

#	Comment Summary/Excerpt	Response
18	The current sand and chemical storage shed does not need meet OSHA and state standards. The current equipment building is old, dilapidated, and too small to house our current equipment (which have cold-sensitive electronics) and a 6.5+ million investment.	We concur with the comment. Section 1.4.3.1 describes the condition of the existing snow removal equipment building and sand storage hangar.
50	If EMAS gets wet, it freezes, it's no longer crushable concrete, it's a solid block – a launch ramp for airplanes to go off into the Refuge. So for an extra 400 feet [of standard RSA under Alternative RSA-5C], we may save a huge airplane, a resultant oil spill and true damage to the Refuge.	FAA disagrees with the comments. A properly designed and installed EMAS system will limit the infiltration of moisture into the cellular cement blocks. The EMAS technology now employed at a number of airports includes sealants and resistant coatings to prevent water infiltration. In addition, there are numerous independent blocks in an EMAS system, and even if one failed it would have no detrimental effect on other blocks. Further, the EMAS may actually have a greater potential to arrest aircraft in wet, icy and/or slippery conditions than standard RSA. For example, the EMAS installation at JFK has recorded three (3) aircraft saves (i.e., a B-747 and MD-11 cargo aircraft, and a SAAB 340 commuter aircraft) and is credited with potentially saving both lives and preventing tens of millions of dollars in aircraft damage.
51	We are not going to close the dike trail; every plan has an alternative for the trail to be in existence. The trail is a valuable asset to the community.	Thank you for the comment. JNU has committed to maintain the Dike Trail regardless of the alternatives selected for implementation. As the description of alternatives in Chapter 2 indicates, many alternatives incorporate relocation of portions of the Dike Trail but don't call for closure of the trail.
52	State law says the airport gets preferred treatment when it comes to expansion vis-à-vis the Refuge. We think Alternative RSA-5C will work legally and have consulted attorneys about this matter.	The Airport does not need the property in question to accomplish the proposed actions being evaluated in the EIS. FAA has attempted to keep as much disturbance on the Airport as possible to minimize damage to the surrounding environment. As the FAA indicated in its September 9, 2005, letter to Commissioner Barton regarding the issue of Section 4(f) and use of Refuge lands, the FAA does not believe that although the legislation establishing the Refuge made provisions for the use of Refuge lands for Airport projects, the proposed use of that land as identified by the Sponsor does not meet the first criterion for use of there being a "significant public need for the expansion which cannot reasonably be met off-Refuge or through use of alternative transportation modes and technologies."
53	We didn't suggest what people are talking about – putting in EMAS and letting it sit for 5 years. We suggested watching Cordova for 5 years, and we put in a <i>footprint</i> for EMAS.	Thank you for the comment, FAA understands what JNU has suggested.

**Table M-2.** Summary of DEIS Comments and FAA Responses, continued

#	Comment Summary/Excerpt	Response
Meaning		
83	A fully functioning airport that can be maintained at reasonable cost is critical to my livelihood.	Thank you for the comment. FAA recognizes the importance of the Airport and aviation access to Juneau is reflected in the EIS; see, for example, Section 1.1.4.
84	EMAS is a hazard to light aircraft.	FAA disagrees that EMAS would be a hazard to light aircraft. Given the relatively short runway length requirements for light general aviation aircraft at JNU, ranging from 2,270 feet to 3,850 feet, RSA overrun protection on a 8,456-foot runway is not a major concern given the excess length of runway pavement that is available for this purpose. The light aircraft would also benefit from the additional RSA undershoot protection (i.e., 600 feet) that would be offered from the various EMAS alternatives. (See additional information in the responses to comments 36 and 290.) In addition the design standards for RSAs required for light general aviation aircraft are met in full by the EMAS alternatives.
85	EMAS is an expensive burden the FAA should not impose on Juneau travelers and taxpayers. FAA should reject all alternatives that rely on EMAS....as not cost effective and not practicable.	The costs associated with the purchase of the EMAS material and its maintenance are only two of several criteria that the FAA must consider in the evaluation of the RSA compliance alternatives. Other criteria include laws and regulations that are mandated by the numerous state and federal agencies that have jurisdictional authority over property and/or resources located on, or in the vicinity of the Airport. However, as described in Chapter 2 of the EIS, EMAS provides an equivalent level of safety to traditional fill and graded RSA. However, FAA has determined that Alternatives RSA-6A and -6B, which incorporate EMAS on both runway ends, are not prudent based on cost since these alternatives are approximately 2.5 times the cost of traditional fill RSA alternatives and exceed FAA's \$30 million financial feasibility threshold for runway safety area at JNU.

Table M-2. Summary of DEIS Comments and FAA Responses, continued

#	Comment Summary/Excerpt	Response
86	EMAS does not provide a level of safety for aircraft that land short.	Please, see response to Comment No. 36. Also, it should be noted that FAA Order 5200.9 Section 6a declares that EMAS, when installed in accordance with Advisory Circular (AC) 150/5220-22a, provides an acceptable level of safety for undershoots. The order, in Section 6a(3), states that as part of the EMAS design and installation "the resulting RSA must provide adequate protection for aircraft that touch down prior to the runway threshold (undershoot)." Finally, AC 150/5220-22A Sections 8c and 8j require that EMAS be designed to take into consideration impacts to aircraft that land short and to "not cause control problems for aircraft undershoots which touch down in the EMAS bed."
Mello		
70	Figure ES-2 is missing one helicopter location. The missing pads are used by NorthStar Helicopters and are located west of the air carrier camp.	Thank you for the correction.
71	The current Airport layout is a hodgepodge. The Airport needs to expand.	FAA concurs that the efficiency of current Airport layout can be improved. Section 1.4 describes the needs for expanded apron and additional facilities.
72	EMAS will cost JNU and CBJ tens of thousands of dollars in monies that are not federally available.	Thank you for your comment. The cost to install RSA or EMAS would be borne primarily by federal funding, approximately 95% of installation cost, with CBJ responsible for about 5% of the installation cost.
73	Alternatives with EMAS do not have time costs associated with them, but the other alternatives do. EMAS cost will go up because it needs to be replaced every 10 years, has yearly O&M costs, and will require special equipment for snow removal.	A "lifecycle" cost analysis is included in the EIS (see, for example, Appendix A) to reflect possible replacement costs for EMAS and other capital and operations and maintenance costs.
74	If EMAS is used, it will force the Airport to change operations during its removal and replacement because the Airport only has one runway.	The operational considerations for all RSA alternatives are discussed in Sections 2.2.2.1, 2.6.3.1, 2.6.4.1, 2.6.5.1, 2.6.6.1, 2.6.7.1, 2.6.8.1, 2.6.9.1, and 2.6.10.1 of the FEIS.
75	EMAS is an unproven technology in the climate of Southeast Alaska. EMAS blocks were tested at JNU and they failed in the wet/cold climate of Southeast Alaska.	Testing done by the University of Alaska is not relevant to the discussion because it did not evaluate EMAS as a system (i.e., standard installation procedures were not utilized). The blocks were placed outside, exposed to the elements with no side coatings, backer rods, caulking or vents, and no tack coat asphalt was used between the bottom of the blocks and the pavement to prevent groundwater intrusion. All of these design components are critical to a proper EMAS installation.

Table M-2. Summary of DEIS Comments and FAA Responses, continued

#	Comment Summary/Excerpt	Response
76	In Section ES 3.3.1, the comment "not consistent with the Mendenhall Refuge Plan" should be removed. The MWSSGR Plan states the Airport should be able to go into Refuge if the needs are for safety.	FAA concurs that the Refuge Management Plan anticipates the possible need for expansion of the Airport into the Refuge. However, according to the plan expansion must be justified and meet a number of requirements established in the Refuge Management Plan. With the December 2006 enacted Public Law 109-433 (Section 10) by Congress, the range of alternatives for runway safety area was narrowed to a single alternative. P.L. 109-433 (Section 10) requires that the Secretary of the U.S. Department of Transportation select the RSA alternative for JNU that is the least expensive but still meets FAA standards and does not shorten the useable runway length. This legislation requires selection of an RSA alternative based on cost, runway length, and FAA standards, and not the level of environmental impact such as encroachment into the Refuge. Based on this legislation, FAA has selected RSA-5E as the preferred RSA alternative, and no other RSA alternatives are available to the FAA from which to select one that may result in less encroachment into the Refuge.
77	Vertical bulkhead design will make it difficult for rescue vehicles to get equipment into the area.	As disclosed in Section 2.11.1, we concur that steepening RSA support slopes increases the difficulty for access by emergency response vehicles. In the case of the south lateral RSA, the use of vertical bulkheads would not be substantially more challenging than, for example, a 1:1 or even 2:1 slope, since large anchor rock would be needed for slope stability and rescue vehicles could not traverse this cover.
78	The Refuge area has been uplifting, so the slough will carve a near course when a new RSA is constructed.	The greater the extent of RSA development east of Runway 26, the stronger the potential for the Dredge Slough flows to be diverted east toward Sunny Point rather than cutting a new channel near the existing East Runway Slough channel. A level survey profiling the channels conducted to assist with analysis documents high points or tipping points in the channel network. The most straightforward way to consider this is recognizing that water will follow the path of least resistance. The survey data shows that the path of least resistance will be to Sunny Point via Sunny Slough if RSA-5C were constructed.  The anticipated outcome of constructing RSA-5C or a similar RSA would be diversion of tidal flows from East Runway Slough, the Jordan Creek confluence, and Fritz Cove to Sunny Slough and Gastineau Channel. Without channel excavation to modify the Sunny Slough channel profile, a tidal backwater pool of perhaps eight acres would form between Miller-Honsinger Pond and the east end of the RSA along Dredge Slough. Such a pool would likely be a wildlife hazard threat.

Table M-2. Summary of DEIS Comments and FAAResponses, continued

#	Comment Summary/Excerpt	Response
78	<i>(continuation of response to comment)</i>	Constructing RSA-6A or -6B would allow the flow connectivity to remain between Dredge Sough, East Runway Slough, and Fritz Cove. Some channel excavation to modify the Sunny Slough channel profile would also be necessary to avoid a similar tidal backwater pool as described above. The channel could re-establish through a passive relocation, but the issue of the tidal backwater pool would remain. FAA has incorporated active re-establishment of the tidal slough as a means of maintaining hydrologic connectivity and avoiding development of a potential tidal backwater pool that may result from passive relocation.
79	The current housing of chemicals in the sand shed is a safety hazard, and this should be added to the purpose and need of the SREF project.	FAA concurs. Section 1.4.3.1 has been revised to note that the current sand storage hangar was not designed as a storage facility for chemicals, including de-icing compounds.
80	Not all bird strikes are reported, as a plane must then be taken out of service and inspected, costing the pilot time in the air.	FAA concurs that not all bird or wildlife strikes are reported since strike reporting is voluntary. However, if a bird strike is reported to the FAA, there are no requirements to take the plane out of service. Any pilot who knowingly strikes a bird, and does not inspect the damage has failed to complete the required preflight checklist requirements, even if the strike is not reported.
Mendenhall Watershed Partnership		
162	There should be a future project directed at improving water quality.	The proposed liner will limit dewatering and improve water quality, as should the improved vegetation along the channel and floodplain.
163	CBJ should encourage and support public uses, including non-motor transportation, establishing greenbelts and buffers through conservation easements and tax incentives.	Thank you for your comments. The implementation of such policies is beyond the scope of this EIS.
164	We request that a program for monitoring water quality and effects of restoration projects continue and that the results be shared with interested private and public organizations.	The permits to be issued for the proposed projects, including a Clean Water Act Section 404 Permit from the U.S. Army Corps of Engineers, are anticipated to require monitoring.
165	Stormwater drainage, flood control, water quality, and public recreation should be the primary function of Duck Creek.	The proposed Duck Creek relocation design supports all of these functions.
166	Projects designed primarily for improvement of anadromous fish habitat in Duck Creek have lower priority than those for water quality or flood control.	Relocation/ restoration design is based on salmonid transport function not salmonid rearing habitat. The design is focused on water quality improvements and flow maintenance, as well as flood control and fish passage.

**Table M-2.** Summary of DEIS Comments and FAAResponses, continued

#	Comment Summary/Excerpt	Response
167	Any culverts or rechannelization projects should be engineered and built to retain flow, prevent fish stranding, and retain estuary ecological functions. Design for culverts should include flow and baffle systems that facilitate adult salmon migration.	We agree that culvert and rechannelization projects need to retain flow, prevent fish stranding to the extent practicable, and retain estuary ecological functions. Further study and the final design will determine if baffle systems are appropriate modifications to the existing CMP. FAA believes this is an issue to be addressed in final permitting.
Miller		
15	We put that provision [in legislation that created Mendenhall Wetlands] in there if the city needed the land for safety reasons. But I never intended—and I don't think anyone on the committee intended—that we should take lands out of the Refuge when it isn't necessary to get at least --or better--safety by doing something like EMAS.	Thank you for your comment. The EIS in Sections 3.13.1.1 and 4.3.13.10 accurately describe the history and intent of the legislative action creating the Refuge. The FAA preferred alternative minimizes both the taking of land from and impacts to habitat within the Refuge.
16	The wetlands are world class and also a real economic boon to this community. We should not minimize the area for anything except safety reasons.	Thank you for your comment.
Morino		
123	Wildlife hazard reduction at the airport is critical to the safety of the traveling public. The NEPA process should be limited to the pros and cons of permanent changes to the environment.	Active control is an integral part of any comprehensive wildlife management program and has a direct impact on the airport ecosystem. CEQ regulations do not limit NEPA analysis to permanent changes to the environment. There is no reason to exclude parts of the wildlife management plan from review under NEPA as part of FAA's federal obligation to consider less damaging alternatives that meet purpose and need. Please also refer to response to Comment No.140.
124	Managers of airports must be respected as the ultimate experts with regard to wildlife hazard management... others must defer to their experience and position. I strongly urge the exclusion of any limitations or required actions dealing with active management or the requirement for "committee formation" from the FEIS and ROD.	Airport managers are typically not experts in matters concerning wildlife management. The FAA often relies on the expertise of USDA Wildlife Services when it comes to wildlife management on airports. JNU has used the services of the USDA to conduct the wildlife hazard assessment and develop the airport's wildlife hazard management plan, and the FAA has included USDA's recommendations in JNU's WHA and WHMP in this EIS.

**Table M-2. Summary of DEIS Comments and FAA Responses, continued**

#	Comment Summary/Excerpt	Response
Mendenhall Refuge Citizens Advisory Group		
146	Any relocation of Duck Creek must provide adequate vegetative cover, appropriate habitat for fish passage and propagation, sufficient drainage for a 100-year flood event, and a buffer zone on both sides to prevent pollutants from entering the creek.	The proposed relocation meets all these criteria except fish propagation. It is not desirable to create new habitat for rearing fish within the Airport reach of Duck Creek. The relocation design keeps floodplain functions and incorporates CBJ required buffers.
147	Care must be taken to prevent discharge from the wastewater treatment plant from flowing into the relocated creek on incoming tides. The proximity of the creek's new mouth and the plant outfall must be analyzed thoroughly. High tides flow a considerable distance upstream in the Mendenhall River and Duck Creek, reversing normal downstream flow patterns.	FAA concurs that the stated concern needs to be considered in a relocation strategy. The proposed location for the mouth or discharge point of Duck Creek is outside the regulatory mixing zone and by definition meets State water quality standards. This clarification will be added in the FEIS.
148	Jordan Creek is an important source of fish and nutrients to the Refuge and Refuge resources. We recommend using bottomless arch culverts beneath the taxiway and runway to preserve fish passage.	FAA concurs that arch culvert extensions for the Jordan Creek channel under RSA and the runway would help preserve fish passage.
149	The Mendenhall River influences the area by significant fluctuations due to both tidal action and glacial meltwater flow. All effort should be made to minimize airport intrusion into the river in order to prevent erosion of Refuge lands.	FAA concurs with the assessment of how much the Mendenhall influences area hydrology and the need to consider impacts to Refuge and upstream lands from alterations caused by Airport projects. Hydraulic analysis of the Mendenhall has been performed in support of FEIS development. See Section 4.3.6.3 of the FEIS. Alternative RSA-5E was developed to minimize impacts on the river channel.
150	We would like to see more proposals for mitigation that are located closer to the Refuge. The Refuge plan's required restoration and/or replacement losses should be mitigated by replacing land adjacent to the Refuge. This can be accomplished by obtaining land that is presently wetlands but not necessarily included within the Refuge boundary.	FAA recognizes that the requirements of the Refuge management plan will have to be addressed in the Mitigation Plan. A conceptual mitigation plan is being prepared by the Airport in consultation with a number of state, local and federal agencies. Acquisition of accretion rights for lands around the Refuge is being considered as an important component of the compensatory mitigation package. Improving access to the Refuge has also been discussed as a potential mitigation action. A process for compensatory mitigation has been approved for incorporation into a Compensatory Mitigation Plan, to be included with the final project permits. Section 2.12.3 of the FEIS includes a summary description of this process.
151	We want to emphasize the need to continue access via the airport for waterfowl hunting, dog walking, hiking, birdwatching, and other long-established usages.	Thank you for the comment. JNU has committed to maintain the dike trail regardless of the alternatives selected for implementation.



Table M-2. Summary of DEIS Comments and FAA Responses, continued

#	Comment Summary/Excerpt	Response
152	The requirements for airport expansion into the Refuge are clearly stated: 1-the airport has to need the land and can't meet that need in any other way; 2-use of Refuge land is avoided or minimized; 3) impacts are mitigated; and 4) no hazardous attraction for waterfowl allowed in proposed project. EMAS minimizes impacts to the Refuge, and we support this. Other alternatives take significant Refuge lands. We do not endorse removal of land when alternatives exist that meet the management plan requirement.	FAA concurs that the requirements listed in the comment accurately reflect criteria for expansion of the Airport into the Refuge (see Section 4.3.13.10).
153	MRCAG supports Section 4(f) protection for wetlands.	Thank you for your comment.
154	Cumulative effects are of concern. Plans for a Second Crossing and a possible BayView subdivision sewer pipe connection across the Refuge further erode viability of the Refuge as a refueling stop for migrating birds. These potential losses must be carefully considered and evaluated, especially in regard to mitigation options. Each project, as well as airport expansion, must ensure no invasive/alien plants are introduced into the region.	FAA concurs that cumulative effects must be considered. Chapter 5 provides an analysis of the potential cumulative effects from past, present, and reasonably foreseeable future actions in conjunction with proposed Airport actions. Table 5-3 includes a list of the non-Airport actions considered, including the Second Crossing project, and the BayView subdivision sewer pipe has been added. Chapter 4 of the DEIS discusses the potential for the introduction of invasive species and identifies measures to minimize their introduction during implementation of the proposed projects.
155	The Airport has asked for more than 18 acres of land without adequately demonstrating the need for the land. The amount is speculative and may be unnecessary once a preferred alternative has been chosen and a ROD issued.	FAA concurs that the requested amount of land may not be necessary, depending on the actions selected in the Record of Decision.
156	Surface water flow at east end of the runway through sloughs should be maintained as much as possible. Existing drainage in that area westerly or easterly should not be altered/diverted by airport expansion.	Additional analysis of hydrologic impacts has been conducted for the EIS. Please, see Sections 2.11.4 and 4.3.6. In order to construct the projects drainage will have to be modified; however, surface flow will be maintained as much as practicable.
157	The fence should go all the way around the airport to function properly.	FAA concurs that it is desirable to fence the entire airport; however, it is not feasible because of the highly variable intertidal conditions on some portions of the Airport boundary. In particular, we do not think a fence could be installed that would stand up to the pressures and erosional forces caused by ice and debris movement during tidal changes.

**Table M-2. Summary of DEIS Comments and FAA Responses, continued**

#	Comment Summary/Excerpt	Response
158	<p>The ponds should be filled and vegetated, not dredged; trees would complete the barrier effect created by the existing woodland. Waterfowl are more likely to fly over open area than forested woodlands.</p>	<p>Dredging, while not as an effective method for reducing waterfowl habitat as filling, would serve the dual purpose of providing fill material and reducing habitat use by dabbling ducks. In the Floatplane Pond, dabbling ducks feed primarily in shallow-water habitats dominated by ditch grass (<i>Ruppia maritima</i>). Ditch grass is not known to occur in water greater than 4.5-meters deep (USGS 2003). Thus, dredging areas containing ditch grass should be an effective means of reducing habitat quality for and use by dabbling ducks and other water birds (e.g. shorebirds, wading birds) associated with shallow-water environments.</p> <p>Filling the fingers of the float pond would reduce attraction to waterfowl in those areas directly impacted by the fill. However, this may simply push waterfowl further out into areas of the pond where there is greater aircraft activity.</p>
159	<p>Floatplane basin fill should be tested for toxicity (deicing chemicals and lead) before being disturbed. Deicing chemicals may be transported by prevailing winds and runoff. Lead may be present from earlier use as a rifle range when lead shot was being used.</p>	<p>FAA concurs that materials should be tested if there is reason to suspect contamination. Please, see Section 2.6.1.2.</p>
160	<p>MRCAG recommends neither thinning nor removing trees in the float plane woodland area. The dense barrier created by branches extending all the way to the ground prevents waterfowl from loafing or nesting.</p>	<p>Thinning of the floatplane pond trees is not part of FAA's preferred alternative.</p>
161	<p>We strongly support the establishment of a working group to assist the airport with wildlife hazards decisions.</p>	<p>Thank you for your comment. FAA believes that a wildlife hazard working group representing Airport, state, and federal officials and community expertise would provide a regular mechanism to review how well the wildlife hazard management program is working and, if necessary, a forum to discuss and recommend improvements. This advisory group would improve communications between the Airport and community, and increase public awareness of the importance of an effective hazard abatement program in providing safe aviation operations at Juneau.</p>
National Marine Fisheries		
430	<p>The Draft Essential Fish Habitat Assessment does not accurately reflect the impacts to EFH and proposed conservation measures as described in the DEIS and needs to be corrected. The FEIS should ensure that both of these documents accurately describe the proposed actions and proposed conservation measures.</p>	<p>The Draft EFH Assessment was updated in conjunction with the Final EIS to ensure that the two documents are consistent with respect to proposed actions, associated impacts, and proposed conservation measures.</p>

**Table M-2. Summary of DEIS Comments and FAA Responses, continued**

#	Comment Summary/Excerpt	Response
431	Our recommendations for the lateral RSA are 1) install bottomless arch culvert extension to lengthen the runway culvert; 2) install baffles in the existing runway culverts to reduce water velocity; and 3) develop plans and commit to funding replacement of the existing CMP culvert under the runway with a natural bottomless arch culvert when the culvert is eventually replaced in the future, coincident with future runway resurfacing or other needed maintenance.	FAA concurs that arch culverts should be installed as a replacement for the existing CMP using a phased approach, as described in the last paragraph of Section 2.11.3. However, federal regulations prohibit obligation of future funds. The recommendation to install baffles will be evaluated during the detailed design for the culvert extensions within the lateral RSA and replacement of the existing culverts under the runway.
432	Our recommendations for the runway end RSA are 1) selection of Alternative 6B in the FIES as the preferred alternative, as this is the least environmentally damaging practical alternative (Alternative 6A impacts fewer acres of wetlands, but they are of a higher quality); 2) Design and construct the new channel for the south runway slough so that tidal waters to and from the high and low marsh habitat east of the runway retain their existing drainage westward towards the Mendenhall River and Fritz Cove and are not redirected into Sunny Slough and south toward Gastineau Channel. This may involve diking the new channel to prevent altering the direction of flow; and 3) compensatory mitigation for remaining unavoidable losses of essential fish habitat and wetlands resulting from implementation of this RSA alternative.	FAA has identified Alternative RSA-5E as the agency's preferred alternative. In December 2006, the U.S. Congress enacted Public Law 109-433 (Section 10), which requires that the U.S. Secretary of Transportation to select as the preferred RSA alternative that alternative which has the lowest overall cost, does not shorten the useable length of the runway, and meets FAA standards. The EMAS alternatives evaluated in the EIS are more costly than those alternatives using traditional RSA fill. Therefore, the FAA cannot select Alternative RSA-6A, -6B, or -6C as the preferred RSA alternative. We concur that a hydrologic connection should be maintained between the Miller-Honsinger pond wetlands, east runway sloughs, Jordan Creek, and the Gastineau Channel. Discussions on mitigation strategies are ongoing with federal and state resource agencies and the applicant.
433	NMFS agrees that the proposed alternative is the best compromise; losses will need to be mitigated.	Thank you for your comment.
434	High marsh habitat loss for the MALSR will need to be mitigated.	The FAA concurs with the comment.

**Table M-2. Summary of DEIS Comments and FAA Responses, continued**

#	Comment Summary/Excerpt	Response
435	<p>NMFS is concerned about proposed impacts from filling wetlands at the end of Runway 08 adjacent to the Mendenhall River and within the Duck Creek floodplain. Past and predicted breaches will decrease the channel length of Mendenhall River, resulting in increased channel slopes. Increased bed and bank erosion are predicted and may be exacerbated by placing additional fill and bank armor within the river at the runway and relocated mouth of Duck Creek. NMFS requests a study of the river's fluvial geomorphology to determine the likely reaction of the river to these recent and predicted events. The study should also examine the feasibility of using bioengineering techniques to protect riverside property while preserving in-river habitat for fish and wildlife. Dredging, rather than fill may be a preferable technique to reduce hazards adjacent to the RSA area.</p>	<p>Hydraulic analysis was performed for the Mendenhall River as part of the FEIS to address concerns expressed in this comment. Please, see Appendix K for detailed information, and Section 4.3.6.3 for a summary of this analysis. Recommendations for the consideration of bioengineering techniques in final project design are also included in the FEIS and may represent a means for reducing potential impacts on river function. Dredging rather than fill at the end of Runway 08 is not considered a viable approach to wildlife hazard management due to the fact that the river would actively redeposit gravels and sediment in the dredged area, which would require ongoing maintenance and dredging (approximately every 2 years).</p>
436	<p>NMFS supports selection of the roadway alternative [for fuel farm access] given the cost of a pipeline. NMFS recommends 1) construction of a 17-foot wide bottomless arch culvert crossing on Duck Creek to match the design at the current Cessna Drive culvert and upstream culverts as planned in the Duck Creek Restoration Plan, and 2) reroute the exposed main sewer line away from Duck Creek at the previous fuel farm access road and culvert site to eliminate this hazardous structure.</p>	<p>Thank you for your comments. Rerouting of the main sewer line is outside the scope of the EIS, however the FAA has advised CBJ of NMFS' recommendation on the reroute of the existing main sewer line away from Duck Creek.</p>
437	<p>Proposed mitigation [for FW/RW-2] is not adequate to compensate for losses to floodplain storage, changes in tidal channel geomorphology and increases in storm water runoff. The proposed development is not wetland dependent unlike the other activities associated with RSA alignments. Potential upland locations for these facilities should be investigated further.</p>	<p>Please, see response to previous comments concerning mitigation process, such as Comment Nos. 143, 389 and 394. However, FAA disagrees with the comment implication that upland areas are available for the aviation facilities. The EIS clearly documents the operational and spatial needs for the facilities. Even if the layout of JNU could be designed with a priority criterion to avoid wetlands there are insufficient contiguous areas on the Airport to support the types and numbers of facilities needed while maintaining safe and efficient airside operations.</p>

**Table M-2. Summary of DEIS Comments and FAA Responses, continued**

#	Comment Summary/Excerpt	Response
438	<p>The current channel for Duck Creek is in poor condition and could be enhanced by the proposed airport development if done properly with due consideration for retaining all fish habitat and wetland functions. The proposed stream channel grade in the north section of the airport property would most likely be located in a steep ditch, not typical of salt marsh stream or tidal channel. The new stream channel should be redesigned with adequate channel morphology to accommodate all important stream functions, and proposed access roads and creek crossings should incorporate full pan bridges instead of culverts.</p>	<p>The proposed channel form is based on existing conditions and is not a steep ditch (see Figure 2-38). Geomorphology field studies were conducted in September 2001 to determine typical channel forms in freshwater and tidal areas. Large span culverts can provide the same function as bridges when the culvert is oversized to allow floodplain functions to be performed.</p> <p>The 1995 Knoll study identified the dewatering issues with lower Duck Creek. Responding to the course/permeable substrate with a liner provides a means of retaining flow that will allow fish transport to upstream habitat areas. The concept for this reach is to shorten the channel and that provides greater slope for transport capability and shortens the distance over which the channel is vulnerable to loss of flow through its bed.</p> <p>Duck Creek would experience less dewatering due to the proposed liner included as part of the relocation (See Figure 2-37), and would gain vegetative buffers serving as riparian filter strips (See Figures 2-40 through 2-42). Both of these changes are consistent with meeting TMDLs. Flow retention in Duck Creek via a liner would contribute to DO meeting water quality standards more consistently. The proposed riparian filter strips would intercept sediment prior to entering Duck Creek. Jordan Creek might experience less water quality impacts from snow removal with the proposed RSA, depending on operational practices. The proposed lateral RSA on the south provides an opportunity for removed snow to sit on the RSA surface. The longer that snow containing urea and sand sits on the RSA, the more likely that carbon compounds will break down from the urea application, and that sand will settle on the RSA when compared to current conditions. The proposed culvert extensions on Jordan Creek should be neutral relative to water quality. Project mitigation is still under development. FAA concurs, however, that the projects should be designed to comply with the TMDL's established for Duck and Jordan Creek and consistent with the objectives of updated storm water management plan.</p> <p>The proposed relocation improves water quality by improving transport and by limiting dewatering with the use of a lined channel. The relocated channel have a steeper slope (0.5% versus existing 0.1%), and the resulting increase in stream power will help the channel flush, which may assist salmonids migrate to upstream habitat. Figure 2-38 describes typical channel dimensions based on geomorphic fieldwork in September 2001. A Duck Creek Restoration Plan is outside the scope of work for the FEIS but FAA supports the idea to have a final Plan completed prior to issuance of permits and initiation of construction work</p>

Table M-2. Summary of DEIS Comments and FAAResponses, continued

#	Comment Summary/Excerpt	Response
438	<i>(continuation of response to comment)</i>	Please, also note that the conceptual channel relocation presented in the FEIS is consistent with the objectives and proposed design elements (identified in the bullets at bottom of page 2-163) recent USFWS studies and the Duck Creek Watershed Management Plan. Please, see also the response to Comment No. 413.
439	The proposed aviation facility roadway next to the relocated Duck Creek should be relocated away from the stream channel to avoid the introduction of pollutants associated with motor vehicle use and snow removal activities. The relocated outlet of Duck Creek into the Mendenhall River should not intersect or overlap the mixing zone of the Mendenhall Wastewater Treatment facility effluent outfall at all flows and tidal stages.	The design incorporates a riparian filter strip to reduce the likelihood of introduction of pollutants to Duck Creek. The proposed outlet does not intersect the established regulatory mixing zone for the Mendenhall Wastewater Treatment Plan.
440	The proposed relocation and reconfiguration of Duck Creek in the DEIS is not adequately designed to support all ecological functions of Duck Creek. NMFS recommends the FEIS include a design that enhances the stream, maintains all wetlands functions, and minimizes the potential for the proposed development to impair the creek. Duck Creek is 303(d) listed stream with established TMDLs for certain pollutants; therefore, all work in Duck Creek must be consistent with TMDLs and should not further degrade water quality.	The proposed relocation recognizes that Duck Creek regularly dewaterers and addresses this key issue. The decreased length and use of a liner will minimize dewatering and improve water quality for better consistency with TMDL. The transport function for fish is improved. Other ecological functions are inconsistent with safety concerns re: wildlife hazards (see Comment No. 234). Floodplain and wetland functions are partially retained, but the area providing these functions is reduced as an effort to balance these conflicting objectives. Please, refer also to the response to Comment Nos. 413 and 438.
441	Off-site compensatory mitigation does not appear to be feasible due to an existing proposal for grant funding by SEAL to acquire this same parcel. In addition, the preservation of existing habitat as mitigation for wetlands and EFH losses will require a higher ration than proposed. NMFS recommends the EIS develop a more comprehensive mitigation plan that includes creation, restoration, or protection of estuarine wetlands, freshwater wetlands, or stream corridors along Gastineau Channel or within Mendenhall Valley.	FAA concurs with the assessment of Eagle Beach as a mitigation opportunity. FAA has committed to work with agencies to develop a compensatory mitigation package that avoids the creation of new wildlife hazards to aviation. A conceptual mitigation plan is being prepared by the Airport in consultation with a number of state, local and federal agencies. Acquisition of accretion rights for lands around the Refuge is being considered as an important component of the compensatory mitigation package. A process for compensatory mitigation has been approved for incorporation into a Compensatory Mitigation Plan, to be included with the final project permits. Section 2.12.3 of the FEIS includes a summary description of this process.

**Table M-2.** Summary of DEIS Comments and FAAResponses, continued

#	Comment Summary/Excerpt	Response
442	<p>Potential mitigation options include acquisition of accreted lands into the MWSGR in order to establish a permanent boundary for the Refuge, removal of an exposed sewer line crossing Duck Creek and restoration efforts along lower reaches of Jordan Creek that are inadequately buffered and subject to runoff.</p>	<p>Thank you for your input. A conceptual mitigation plan is being prepared by the Airport in consultation with a number of state, local and federal agencies. Acquisition of accretion rights for lands around the Refuge is being considered as an important component of the compensatory mitigation package. As NMFS is a member of the agency group participating in mitigation planning we assume other suggestions noted in the comment have been raised during applicable meetings and given due consideration. A process for compensatory mitigation has been approved for incorporation into a Compensatory Mitigation Plan, to be included with the final project permits. Section 2.12.3 of the FEIS includes a summary description of this process.</p>
443	<p>To facilitate developing an acceptable mitigation plan, FAA should clarify whether preserving existing habitat on-site is acceptable, given the FAA policy to not create additional wildlife hazards within specific distances from airport facilities. Preserving existing habitat does not create or increase wildlife hazards. Acquisition of existing wildlife habitat could decrease wildlife hazards by allowing JIA to control hazards on lands where it is currently unable to do so.</p>	<p>Clarification of the guidance and site-specific applicability to compensatory mitigation options is disclosed in Section 2.12. Preserving habitat near the airport is acceptable provided it does not create additional wildlife hazards. However, this land may need to be managed to decrease use by hazardous wildlife.</p> <p>The FAA's wildlife hazard siting criteria does not preclude the preservation of existing habitat on and around the Airport as long as other conditions are met. For example, FAA would provide grant money to JNU for development of projects and also for compensatory mitigation. Assurances incorporated into the grant would require that the Airport comply with FAA Advisory Circulars such as AC 150/5200-33A regarding hazardous wildlife on or near airports.</p> <p>This circular addresses existing wetlands on or near airports and recommends that public use airports work with local, state, and Federal regulatory agencies to correct any wildlife hazards resulting from such wetlands. Additionally, the circular recommends the establishment of a wildlife hazard working group help implement wildlife hazard management plans at airports, a recommendation also incorporated into FAA's preferred alternative (see Section 2.13 of the FEIS). In the case of JNU, the wildlife hazard advisory group would help to address known and potential hazards from wildlife use of on-airport and near-airport wetlands. The Refuge statute stipulates that the ADNR and ADF&amp;G work with the Airport to address waterfowl attractants on the Refuge that may pose a safety hazard for Airport operations. Therefore, the FAA can agree to preservation of accreted lands on and around JNU as compensation for the loss of Refuge or even non-Refuge lands affected by the Airport projects as long as grant assurances are met and all parties abide by the Refuge statute.</p>

**Table M-2.** Summary of DEIS Comments and FAA Responses, continued

<b>Comment Summary/Excerpt</b>		<b>Response</b>
<b>Peters</b>		
139	Early indications of the U of AK Fairbanks' tests of EMAS do not support the idea that the material will work in Alaska, rather they indicate just the opposite.	Please, see the response to Comment No. 75.
140	While discussion of active management may provide interesting background on how to manage the wildlife hazards, it should not be mandated through an FEIS or Records of Decision.	The airport is mandated to address wildlife hazards on the airport, however, the FAA is not mandating how they accomplish this. FAA agrees with the need to have flexibility in how to address wildlife hazards. In accordance with 14 CFR 139.337(d), JNU is responsible for development of the plan and its implementation, including the need to take immediate measures to alleviate wildlife hazards whenever they are detected.
141	Managers of airport must be respected as ultimate experts as regard to wildlife hazard management. I strongly urge the exclusion of any limitations or required actions dealing with active management or the requirement for "committee formation" from the FEIS and ROD.	FAA relies on its own in-house expert as well as USDA Wildlife Services as the ultimate experts in regard to hazardous wildlife management at airports. FAA believes that a wildlife hazard working group representing Airport, state, and federal officials and community expertise would provide a regular mechanism to review how well the wildlife hazard management program is working and, if necessary, a forum to discuss and recommend improvements. This advisory group would improve communications between the Airport and community, and increase public awareness of the importance of an effective hazard abatement program in providing safe aviation operations at Juneau.
<b>Purcell</b>		
26	EMAS is a reliable appropriate and effective method to use in Juneau. 15 other airports in the US have used and are using EMAS.	Thank you for your comment. Please, see the response to Comment No. 1.
27	The Refuge should be afforded 4(f) protection due to its extensive and unique wetlands habitat. You have chosen alternatives that would disturb the least amount of habitat.	The Refuge is considered a 4(f) property for the reasons described in Section 3.13.1 of the DEIS.
28	Use of hazing methods (instead of moderate or extreme habitat modification plans) would require more personnel to implement but would entail significantly less cost versus the moderate or extreme habitat modification alternatives.	This comment is consistent with the analysis in the DEIS.



**Table M-2.** Summary of DEIS Comments and FAA Responses, continued

#	Comment Summary/Excerpt	Response
Roundtree	<p>36 Our problem at Juneau is aircraft landing short, not long. EMAS will collapse worse than the gravel did, and it's going to shear the gear off the airplane, and you are going to have a lot of problems.</p>	<p>Computer modeling and actual experience at other airports suggest the comment is incorrect. The FAA has conducted computer simulation modeling to determine the EMAS's predicted performance during short landings. The results of simulation modeling indicate the EMAS surface will not create an unacceptable safety margin for undershoots. This conclusion was further supported by an actual short landing at Little Rock where the pilot was able to maneuver the aircraft onto the runway surface with good control. EMAS is not a runway surface and does not provide any operational benefit for short landings, but it does provide an acceptable level of safety for undershoots. The reviewer is correct that more undershoots have been documented at JNU than overruns, but in response to those specific problems additional navigational technology has been employed (such as the MALSR on Rwy 08) that should reduce potential for aircraft to undershoot. The FAA has determined that the EMAS footprint can be calculated as a component of the standard 600-foot undershoot RSA dimension as specified for ARC C-III aircraft.</p> <p>Given the proposed 188-foot threshold displacements associated with the EMAS/RSA compliance alternatives for JNU, and the standard 75-foot setback between the departure threshold and the EMAS bed, just under one-half (i.e., 263 feet) of the standard undershoot RSA would consist of runway or blast pad pavement, with the balance being represented by the EMAS bed material. It should also be noted that the standard RSA undershoot criteria for small general aviation aircraft ranges between 240 and 300 feet for ADG I &amp; II aircraft in consideration of the Airport's existing public-use instrument approach visibility minimums, and these dimensions are approximate to the 263-foot paved portion of the undershoot RSA that was previously described for the EMAS alternatives.</p> <p>Further, it should be noted that FAA Order 5200.9 Section 6a declares that EMAS provides an acceptable level of safety for undershoots. Additionally, Advisory Circular 150/5220-22A Sections 8c and 8j require that EMAS be designed to take into consideration gear configuration and to "not cause control problems for aircraft undershoots which touch down in the EMAS bed."</p>

**Table M-2. Summary of DEIS Comments and FAA Responses, continued**

#	Comment Summary/Excerpt	Response
37	We have a lot of superfund sites as a result of pressurized underground pipes. I hope this option does not go forward. It is old technology.	Thank you for your comment. Leaking underground pipelines carrying petroleum products or other chemicals have caused significant environmental damage in many locations around the world. Pipeline technology has improved substantially and the risk of leaks from new installation pipelines has decreased. However, Section 2.8.3.2 describes the possible consequences of a leak.
Rue		
54	The lights are going to be extended in an area that is nice and dark at night. If there are ways to minimize the amount of lights, that would be a good thing. There are a lot of "islands" that have grown up and have nice vegetation out there. If they can be left, that could lessen the impact of adding lights there.	As stated in Section 4.4.12, the MALSR lights would create some visual impacts, though minor, with the length of the MALSR system extending into the Refuge dependent on the RSA alternative selected. The number of lights are established by FAA Order and designed to provide a visual aid for navigational/pilot alignment with the runway at night and under less than optimal weather conditions. The MALSR light alignment is angled upward in a tight beam along the approach flight path, and as stated in 4.4.12., this is not expected to create any long-term impacts on visual quality for residential areas in the vicinity of the airport.
55	The land between Temsco and Sunny Point is a good idea. It is a good habitat area, and is used by a huge number of birds.	The Miller-Honsinger Property (the private lands between Temsco and Sunny Point) was initially considered for inclusion in the compensatory mitigation plan but may present wildlife hazard management concerns. A process for compensatory mitigation has been approved for incorporation into a Compensatory Mitigation Plan, to be included with the final project permits. Section 2.12.3 of the FEIS includes a summary description of this process.
56	The dike trail is a unique trail for Juneau. It is flat, and you can run and walk on it at night. I would like to see it maintained.	CBJ has committed to retain the Dike Trail no matter which alternatives are selected for implementation.
57	Would like to see Refuge treated as 4(f) lands. It has been there a long time, and contains valuable wetlands and resources for Juneau.	Thank you for your comment. FAA has determined that the Refuge is a DOT Section 4(f) land.
Southeast Alaska Conservation Council		
100	We understand that EIMAS and WH-3 may cost slightly more to maintain and operate. This is a price Juneau must pay to preserve one of its greatest natural assets.	Thank you for your comment. Also, please see response to Comment No. 38.
101	[EIMAS] has proven successful in JFK Airport as well in Minnesota, where weather conditions are just as challenging as in Juneau.	Thank you for your comment. Also, please see response to Comment No. 1.

Table M-2. Summary of DEIS Comments and FAA Responses, continued

#	Comment Summary/Excerpt	Response
102	Section 4(f) expressly states that land can be used only if "there is no prudent or feasible alternative to using that land" and that the project "include all possible planning to minimize harm." EMAS is a proven and feasible alternative.	The comment accurately reflects criteria incorporated in 49 U.S.C. 303(c) (the Section 4(f) statute) concerning use of 4(f) land. Please, see Section 4.3.13.7 of the EIS.
103	We understand EMAS and WH-3 may cost slightly more to maintain and operate. This is a price Juneau must pay to preserve one of its greatest natural assets.	Thank you for your comment.
104	In modifying woodlands to discourage, foraging deer, habitat for other animals, and more troublesome species, like geese, could be improved.	Habitat management in the wooded areas can be modified to retain understory if an appropriate security fence is installed to assist in controlling deer. As described in Section 2.13.6 of the DEIS, FAA's preferred alternative for WHMP does not include alternation of the understory in the Float Plane Pond woodland.
Shaw		
94	I favor Option RSA-5c	Thank you for your comment.
Sierra Club		
19	This is one of the best draft EISs I have seen, and I do most of the NEPA work for the quadrant of the Southeast.	Thank you for your comment.
20	Rising sea levels from rising temperatures from greenhouse gas accumulation are rapidly overtaking the rate of isostatic rebound on the Refuge, so we may not see an accretion problem in the future.	Thank you for your comment. Rising sea levels would undoubtedly influence the habitats on the Refuge and affect accretion. However, quantification of such effect is beyond the scope of this EIS and could not be altered by the actions considered in this EIS.
21	Mitigation is going to be very expensive, particularly in regard to the wetlands off southeast end of the runway.	The Airport is currently developing a mitigation package in collaboration with interested agencies. Estimated costs will be included in the Compensatory Mitigation Plan, and the final plan, issued as part of the 404 permits, will include the total cost associated with the package.
22	FAA should hold fast to the requirements of Section 4(f) provisions. This is plenty of case law to back you up. EMAS is a reasonable and prudent alternative...and should be used.	Thank you for your comment.

**Table M-2.** Summary of DEIS Comments and FAA Responses, continued

#	Comment Summary/Excerpt	Response
23	Don't put the test patch off to the side. The compromise should be that EMAS is put where it should be, and if, after 5 years, it is shown it doesn't work, then revisit the full paved RSA idea.	FAA has determined that EMAS "provides a level of safety that is generally equivalent to a full RSA constructed to the standards of AC 150/5300-13 for overruns" (FAA Order 5200.9). The Airport Board's compromise proposal does not meet FAA RSA standards. Following the issuance of the Draft EIS, both the Airport and the FAA proposed modified RSA alternatives (RSA-5D, RSA-5E, and RSA-6D) that are analyzed in the Final EIS. In December 2006, the U.S. Congress enacted Public Law 109-433 (Section 10) which requires that the U.S. Secretary of Transportation to select as the preferred RSA alternative that alternative which has the lowest overall cost, does not shorten the useable length of the runway, and meets FAA standards. The EMAS alternatives evaluated in the EIS are more costly than those alternatives using traditional RSA fill. Therefore, the FAA cannot select Alternative RSA-6A, -6B, or -6C as the preferred RSA alternative.
24	Studies show that communities that focus on retaining open space and wetlands--that go the extra step in protecting areas that contribute to quality of life--prosper.	Thank you for the comment.
25	Wetlands off the southeast end of the runway have been cited again and again as some of the best essential fish habitat on the Refuge.	While different areas of EFH have not been rated with respect to quality (i.e., an area either is or is not considered EFH), the wetlands function assessment ranked the quality of fish habitat for each wetland within the project area. Wetlands ER1 and ER2 are located off the east end of the runway and rate as having high to very high fish habitat function (Table 3-30 of the Draft EIS).
Spickler		
168	Continue with revegetation projects in exposed reaches of Jordan Creek to provide cover and shade.	Revegetation along Jordan Creek would provide needed shade and cover, particularly in those areas where the trees were removed in 2000. Plant species selection needs to be consistent with Wildlife Habitat Management Plan considerations, and the riparian and wetland settings.

Table M-2. Summary of DEIS Comments and FAA Responses, continued

#	Comment Summary/Excerpt	Response
169	I would like to voice support for the Airport board and management's position that the safety area for the airport be accomplished traditional fill and expand into the wetlands and Mendenhall River as needed.	Thank you for your comment. FAA considered two traditional fill RSA alternatives (RSA-1 and RSA-5C) in the DEIS and five traditional fill RSA alternatives (RSA-1, RSA-5C, RSA-5D, RSA-5E, and RSA-6D) in the FEIS. In December 2006, Congress enacted Public Law 109-433 (Section 10), which requires that the Secretary of the U.S. Department of Transportation select the RSA alternative that is the least expensive but still meets FAA standards and does not shorten the useable runway length. This legislation requires selection of an RSA alternative based on cost, runway length, and FAA standards, and not the level of environmental impact. EMAS technology is more expensive than traditional fill. As such, RSA alternatives using EMAS (such as RSA-6A, RSA-6B, and RSA-6C) may not be selected in the Record of Decision.
170	We need to put human safety ahead of a few birds.	Thank you for your comment.
171	The EMAS proposal may function well in Arizona, but not in Southeast Alaska.	EMAS has been installed at a number of airports that experience high levels of humidity and temperature extremes, including JFK in New York and MSP in Minnesota. The technology has proven to be successful in the arresting of three (3) aircraft (i.e., a B-747 and MD-11 cargo aircraft, and a SAAB 340 commuter aircraft) at JFK, which experiences cold wet winters within a marine environment. These aircraft arrests are credited with saving both lives and ten of millions of dollars in aircraft equipment.
172	Allow the Airport management to use whatever humane methods are deemed necessary to resolve future wildlife/airport safety issues.	Thank you for your comment. Please, see descriptions of possible hazard control techniques in Section 2.5.1.2, as well as the Wildlife Hazard Management Plan for the Airport (2002).
Stone		
58	The economic base of this city is state employment, being the capital. The only way to protect this is to assure that our airport be a state of the art, top-notch first class airport. That's why they wrote the legislation as they did.	Thank you for your comment.

**Table M-2.** Summary of DEIS Comments and FAA Responses, continued

#	Comment Summary/Excerpt	Response
59	FAA promised that they will pay for replacement of EMAS every 10 years, but I am not willing to accept that tax burden of 12-15 million every 10 years. Taxpayers of Juneau cannot afford this.	The scheduled replacement of the EMAS bed would be classified as an Airport Improvement Program (AIP) eligible project by the FAA, which would have a federal funding participation of 95% based upon current funding allocations. JNU would be responsible for the local 5% funding match. Using the comments referenced replacement cost figures, which appear to be inflated above the anticipated maintenance costs presented in the EIS, the implementation of a 1.2 to 1.5 million dollar project every ten years or so that maintains the operational safety of the Airport (protecting both passengers and airline assets) is expensive, but not unreasonable. Additionally, ESCO, the EMAS manufacturer has indicated that EMAS life cycle costs should decrease based on planned product improvements.
60	If we need to replace EMAS in 5 years, that means another EIS. This EIS already costs over \$2 million.	The comment is incorrect. Installation of an EMAS replacement bed (anticipated at 10 years) would require no new environmental analysis.
61	The cost of EMAS at JFK was \$1,895,000 plus, and the airport there is having to put up the money and then seek legal help to recover from airlines.	Repair cost can be a contentious issue between air carriers and airports, as it is not unusual for an air carrier to allege mitigating circumstances when their actions have resulted in damage on an airport whether from RSA overrun, damage to a terminal, or incursion of EMAS. FAA believes it would be beneficial for the Airport to establish or add to an existing contingency fund for such unpredictable events or circumstances. Again, under most all reasonable circumstances, the Airport would not be responsible for funding the cost of the EMAS repair that results from damage by an airline or other aircraft operator.
62	Under Alternative RSA-5C, we are giving up 0.18 percent of a 4,000-acre Refuge to avoid a million dollar per year EMAS investment.	CBJ would not be making a million dollar per year investment. Further, this comment does not recognize the hydrologic, wildlife and recreational values of the Refuge.
Story		
376	Our community constantly struggles with trying to keep the capitol in Juneau, and any reduction in air transportation will only increase the odds of the Capitol location moving from Juneau.	Thank you for your comment. No reduction in air transportation is anticipated in this EIS, other than possible demand reductions caused by creation of a new access road to Juneau (which will create a new alternative to air travel).

Table M-2. Summary of DEIS Comments and FAA Responses, continued

#	Comment Summary/Excerpt	Response
377	<p>Even the FAA in the DEIS says "EMAS can provide a level of safety generally equivalent to a standard RSA for overruns. "Generally equivalent" is another way of saying "not as good as". What about a short landing? In all the EMAS promotional literature that the FAA has offered so far, I have never seen it promoted as being effective for short landings. If the FAA forces EMAS on our community, I would like to see evidence that it is as safe as conventional RSAs, and the FAA has not yet provided that evidence.</p>	<p>Please see the response to Comment Nos. 36 and 290 concerning short landings. FAA disagrees with the comment comparing EMAS and RSA. "Generally equivalent" means that EMAS provides a level of safety similar to RSA but, clearly, in a different manner than RSA. EMAS is designed to physically arrest aircraft from long overrun. RSA is designed to provide aircraft sufficient distance to slow down and stop during an overrun. Both systems are designed to minimize aircraft damage, injury and loss of life.</p>
378	<p>The FAA is making CBJ prove that the material doesn't work in this climate instead of the FAA proving that it does. The burden of proof that this material will safely land and/or stop a plane after being in our wet environment for several years should be on the FAA.</p>	<p>EMAS has been installed at a number of airports that experience high levels of humidity and temperature extremes, including JFK in New York and MSP in Minnesota. The technology has proven to be successful in the arresting of three (3) aircraft (i.e., a B-747 and MD-11 cargo aircraft, and a SAAB 340 commuter aircraft) at JFK, which experiences cold wet winters within a marine environment. These aircraft arrests are credited with saving both lives and ten of millions of dollars in aircraft equipment.</p>
379	<p>The Refuge was established with the understanding that we could go into the Refuge for expansion of our airport. The government has changed the rules, and now the FAA is telling us not to go into the Refuge, or minimize how far we go into the Refuge. Common sense tells us a longer conventional RSA is safer than the EMAS being proposed by the FAA. It seems incredulous that the FAA is telling us to put in a less safe RSA in order to minimize impact on a Refuge that was only created after assurances from the government that we could go into the Refuge for this type of issue.</p>	<p>FAA disagrees with the comments. The analysis of impacts to the Refuge is based on federal laws, including the Clean Water Act and the Department of Transportation Act (the Section 4(f) analysis) as well as the statute establishing the Refuge and the State of Alaska's Refuge Management Plan. Aviation experts at FAA have determined that EMAS provides a generally equivalent level of safety to RSA.</p>
380	<p>The fact that it is a Refuge does not preclude the FAA and CBJ to build conventional RSAs in the Refuge. Federal regulations make it harder but do not preclude it as the FAA seems to be implying.</p>	<p>Comment noted. Thank you.</p>

**Table M-2. Summary of DEIS Comments and FAA Responses, continued**

#	Comment Summary/Excerpt	Response
381	It is not prudent to recommend an alternative (EMAS) that has life cycle costs several times higher than other alternatives. I also question the costs used by the FAA for EMAS. The initial and life cycle costs presented by the FAA in the DEIS are much lower than costs I have seen at the Ketchikan airport and other State of Alaska projects.	The estimated life cycle costs for two-EMAS alternatives are approximately 2.5 times that for standard RSA alternatives, as itemized in Appendix A. The commenter's reference to Ketchikan cost estimates is incomplete. The alternatives that would meet FAA standards for RSA at Ketchikan range in cost estimate from \$29 million for standard RSA to \$41 million for EMAS alternatives. Therefore, even standard RSA installation at Ketchikan would be approximately 3 times the cost of Juneau alternatives, illustrating that the high costs for Ketchikan alternatives are due to the terrain challenges (steep topography, a scarcity of level land, and large areas requiring fill) and not due to underestimating of Juneau costs. See RSA Practicability Study for Ketchikan Airport, ADOT&PF, May 2005.
382	The desire to use EMAS to avoid minimal impacts to wetlands and the Refuge, impacts that can be clearly and completely mitigated, is short-sighted.	The desire to implement alternatives that meet the purpose and need for the actions described in the EIS, yet avoid or reduce environmental impacts, is driven by federal and state laws and regulations.
383	The State of Alaska clearly recognized that at some point these lands would be needed by the airport. The State of Alaska should have the final say in how the Refuge wetlands will be used, and indications are that the State is very supportive of the Airport's preferred alternative.	Please see response to Comment No. 8. In addition, the analysis and decisions also consider other state and federal laws, such as the Clean Water Act, which requires use of the least damaging practicable alternative.
Territorial Sportsmen, Inc.		
142	Alternative analysis for improvement of the RSA and lighting systems to present alternatives that would maximize those items without taking land from MWSGR is necessary. This analysis is clearly required... to understand the difference between the proposed alternatives and the maximum improvement that could be obtained without using Refuge land. This analysis is required by FAA order 5050.4A.	The analyses in this EIS conform to the requirements outlined in various federal regulations, statutes and guidance as well as FAA Order 5050.4B, <i>Airport Environmental Handbook</i> and FAA Order 1050.1E, <i>Policies and Procedures for Considering Environmental Impacts</i> . FAA's preferred RSA alternative, Alternative RSA-5E, would have limited direct impact to Refuge lands east and west of the Airport, however, RSA development would not increase the land use change beyond that required to meet the objectives for wildlife hazard reduction. The statute establishing the Refuge and its management plan both recognize the potential need for the Airport to implement hazard reduction actions that could affect the Refuge. Therefore, the preferred alternatives for RSA and wildlife hazard reduction conform to the Refuge goals.



**Table M-2. Summary of DEIS Comments and FAA Responses, continued**

#	Comment Summary/Excerpt	Response
143	<p>Meaningful mitigation of impacts to the Refuge and Refuge resources can be accomplished on and/or around the Refuge with no increase in wildlife hazards to the airport. Such mitigation could include purchase of future accretions rights for adjacent landowners and improvement to Refuge access by purchase of CBJ or private lands and construction of parking lots and hard trails.</p>	<p>A conceptual mitigation plan is being prepared by the Airport in consultation with a number of state, local and federal agencies. Acquisition of accretion rights for lands around the Refuge is being considered as an important component of the compensatory mitigation package. Improving access to the Refuge has also been discussed as a potential mitigation action. A process for compensatory mitigation has been approved for incorporation into a Compensatory Mitigation Plan, to be included with the final project permits. Section 2.12.3 of the FEIS includes a summary description of this process.</p>
144	<p>The DEIS does not demonstrate compliance with the MWSGR Management Plan policy relating to use of the Refuge for Airport purposes. This plan states that CBJ may use or acquire lands...after demonstrating that use of Refuge lands were avoided or minimized to the maximum extent, and " all impacts to the Refuge and to Refuge resources are fully mitigated through restoration and/or replacement." In reference to the latter part of this provision, if the FAA policy on hazardous wildlife attractants is interpreted specifically to prohibit restoration, then it is clear that the airport cannot use the Refuge for this airport expansion.</p>	<p>FAA disagrees with the commentator's interpretation of the FAA policy with respect to wildlife hazards. The policy does not prohibit full compensatory mitigation, potentially including restoration and/or replacement, for losses of habitat or other environmental impacts. The policy does, however, require that mitigation be conducted that would not create an increase hazards to aviation.</p>
145	<p>The Purpose and Need is stated as expanding the RSA to full FAA standards. By stating as such, reasonable alternatives are reduced to only those that provide a full RSA, despite clear allowance in FAA Order 5200.8 for improving the RSA to enhance safety while the RSA will still not meet current standards.</p>	<p>FAA Order 5200.8 indicates that alternatives that do not meet FAA RSA standards but enhance safety may be provided in situations where meeting the standards is not practicable. FAA has determined that meeting RSA requirements is practicable at JNU and has evaluated a range of practicable alternatives meeting the standard in the EIS.</p>
U.S. Army Corps of Engineers		
394	<p>The compensatory mitigation as outlined in the DEIS appears to be unachievable. If the FAA anticipates that the proposed project would result in unavoidable losses of waters of the US to the extent that mitigation is a necessary component of the EIS, the Corps would expect that the EIS would include sufficient information regarding how any proposed mitigation relates to the individual and cumulative impacts to aquatic resources in the proposed project area. Additionally, should compensatory mitigation be a component of the EIS, we recommend that the proposed mitigation be demonstrably feasible. The Corps also recommends that the FAA consult with state and federal resource agencies on mitigation opportunities.</p>	<p>The Airport has been working with an interagency group comprised of the FAA, CBJ, DNR, NMFS, USFWS, EPA, ADFG, and SEAL Trust and others to develop a mitigation plan that would compensate for the unavoidable adverse impacts to wetlands and fisheries associated with the Airport's proposed actions. The feasibility of the final mitigation package will be demonstrated in the plan. Section 2.12.3 of the FEIS includes a summary description of the draft Compensatory Mitigation Plan.</p>

**Table M-2.** Summary of DEIS Comments and FAA Responses, continued

#	Comment Summary/Excerpt	Response
395	We recommend that all the Corps' previously provided comments pertaining to the preparation of the EIS be reexamined and thoroughly addressed.	Previous Corps comments have been taken into consideration in preparation of the DEIS. For example, Corps comments on the RSA alternatives contributed to refinements in the lateral safety area alternatives; and Corps comments on the wetlands functional assessment methodology resulted in refinements to this assessment method.
U.S.D.A Wildlife Services		
125	We are unable to identify any clear Preferred Alternative. Page 2-235 states "FAA in general concurs with JNU...that the following actions should be implemented." However, it does not define which Alternative these actions fall under, not which alternative is preferred.	The actions listed in Section 2.13.6 (page 2-235 of the DEIS) do not represent a single alternative, but are derived from the four WHMP alternatives evaluated in detail. Collectively, they represent the preferred alternative.
126	RE: cooperating agencies: The Wildlife Service has a Memorandum of Understanding with the FAA and has provided several reviews.	We concur. A short description of USDA's involvement as a review agency and contractor to the Airport for wildlife services has been included in Section 1.6.
127	At no point in the DEIS is there a comparative discussion of the efficacy in reducing wildlife hazards. The absence of quantifiable objectives makes this sort of analysis difficult. It is imperative that the DEIS analyze whether decreasing habitat modification and increasing direct control will actually lead to greater reduction in wildlife hazards. It is common practice and professionally accepted that habitat management strategies are an effective first approach to managing wildlife hazards. Active control methods (hazing, removal) should be considered supplemental and NOT used as the primary means of reduction. Alternatives relying on these means as primary are contrary to established methods, and the DEIS should clearly show the analysis that led the authors to this different conclusion.	There are no studies or protocols that have ever provided a comparative discussion on the efficacy of reducing wildlife hazards at any airport. The DEIS used as a basis for the analysis the WHA and considered objectives and recommendations in the Wildlife Hazard Management Plan. Wildlife biologists who have worked on airports for extended periods of time will understand the dynamic nature of bird/wildlife hazard issues and know that habitat management may reduce attraction to one species while attracting others. The trade-off is often delicate and may not be immediately apparent as species adapt to changes in habitats for miles around the airport as well. While most experts would agree that habitat management strategies are the best long-term approach to managing hazards, many would also agree that active control plays an important role as well. Many airports use active control methods daily. The survey of the control methods used at other airports underscores the fact that active control is commonly used when habitat management is impractical or impossible.

**Table M-2. Summary of DEIS Comments and FAA Responses, continued**

#	Comment Summary/Excerpt	Response
128	<p>There are several conceptual and mathematical flaws in the Risk Matrix, echoed by comments of bird strike specialists. According to paragraph 3, on page 2-98 "this approach has been reviewed by an international group...all of whom generally agreed that it was an appropriate methodology..." We strongly disagree with this statement and are unaware of any comments provided by Ed Cleary (and the DEIS does not show any comments should they exist). A conversation we had with him indicated that the matrix is a start but it leaves a lot to be desired. Comments also indicate a lack of rigorous scrutiny of the approach and a lack of agreement with the approach. We do not know why FAA chose to not only disregard these comments but also go so far as to indicate a general agreement that does not appear to exist.</p>	<p>While all reviewers point to concerns with this model approach, none indicated that the model was inappropriate, nor did any offer an alternative model that could be implemented with the available data at JNU. The EIS clearly demonstrates that FAA did not disregard the reviewers comments, and the DEIS (Sections 2.5.4 and Appendix B) acknowledges the model anomalies. The risk assessment model developed for the DEIS was just one tool the FAA used to evaluate WH alternatives. FAA also relied upon surveys of other airports, consultation with wildlife management professionals, including USDA, the analysis and recommendations contained in the USDA's wildlife hazard assessment, and input from airport staff.</p>
129	<p>The comments of Dr. DeFusco indicate questions regarding the methodology for frequency/scaling and ranking of damage. Dr. DeFusco also says, "if you look closely at other such anomalies in the ranking, I think you will see that the list does not seem to make logical/biological sense in some instances."</p>	<p>Refer to the response to Comment No. 128.</p>
130	<p>The comments of Mr. MacKinnon indicate he is not entirely comfortable with the concept of qualifying risk...where there are so few absolutes, or that we should be able to quantify risk in order to predict incidents. This indicates that those who have been in the business can subjectively assess risk at airports. USDA agrees and provided a list of hazardous wildlife species identified at JNU as part of year long Wildlife Hazard Assessment.</p>	<p>Refer to the response to Comment No. 128.</p>
131	<p>The comments of Dr. Allen indicate that some birds are more prone to be struck than others. The USDA Wildlife Services agrees and points out that the proposed Risk Matrix does not give any weight to bird behavior. The best way to measure "strike proneness" is to do a Runway County (make a count of birds moving through the operational airspace). These surveys were conducted but were excluded from the Risk Matrix in favor of point count surveys, in spite of our advice to the contrary. Of the point count data, species were left out of Table 2-10 in spite of their proportional significance. Altogether only 21 of the 58 species identified in the WHA were included in the Risk Matrix.</p>	<p>Refer to the response to Comment No. 128.</p>

**Table M-2.** Summary of DEIS Comments and FAAResponses, continued

#	Comment Summary/Excerpt	Response
132	<p>Page 2-98, 3rd paragraph states that "this approach provided an objective means of understanding the relative risk posed by various bird species..." However, 3 of the 5 reviewers indicated the need for subjectivity based upon the experience of the biologist onsite, which the Risk Matrix does not provide. Furthermore, the EIS states "this risk assessment methodology results in a few anomalies with regard to the relative risk posed by certain species." This is even more documentation highlighting flaws in the matrix.</p>	<p>Refer to the response to Comment No. 128.</p>
133	<p>No reference is provided from Dolbeer et al. (2000). This strike ranking did not use abundance as a factor of risk. Some geographical areas have locally abundant species that do not rank high nationally, therefore the strike risk from those species is likely much higher than assigned by a national database. In the case of JNU, northwest crows and swans national abundance is low, hence low risk, but local abundance is high and should be ranked much higher.</p>	<p>Refer to the response to Comment No. 128.</p>
134	<p>Dolbeer also uses damage as a risk factor. The level of damage is a chance happening; just because an aircraft luckily avoided ingesting a bird directly into its engine does not lessen the hazard level of the species.</p>	<p>Refer to the response to Comment No. 128.</p>
135	<p>There is relatively little agreement on a process for ranking species risk of causing a strike. The Wildlife Service thinks the EIS is relying too heavily on a ranking scheme that is not nationally or internationally accepted. Wildlife hazard issues are judgmental and should be based on the findings of [local and national] professionals. The JNU Wildlife Hazard Assessment written by the Wildlife Service does that.</p>	<p>Refer to the response to Comment No. 128.</p>
136	<p>Three years have passed since development of the model. There is additional data to help evaluate the value of the Risk Matrix. Of the 17 additional wildlife strikes, 4 involved species not even listed, and 6 others involved unidentified species.</p>	<p>Refer to the response to Comment No. 128.</p>

**Table M-2.** Summary of DEIS Comments and FAAResponses, continued

#	Comment Summary/Excerpt	Response
137	A clearly defined set of objectives is needed to help the public and decision-maker determine if any of the alternatives are "reasonable" or if any should be added. "Acceptable" risk level means different things to different people. Quantifiable objectives are preferred since they can be used to measure the effectiveness of the alternatives.	We concur that the practice of wildlife hazard management would benefit from the establishment of clear objectives, if possible, to reduce subjectivity from the analysis particularly with respect to "acceptable" levels of risk. The EIS has chosen to rely on the local studies conducted for JNU such as the WHA and WHMP that do not include clear objectives demonstrating why actions are needed or how much risk would be reduced with different habitat modifications or hazard management activities. We would also point out that these determinations cannot always be quantified, nor should they be. The experience of on-site and local professionals is vital to determining how best to manage wildlife hazards at an airport.
138	To establish a compelling case for the Need for Action, the EIS should show a detailed record of bird strikes at JNU. Some information is in the wildlife hazard assessment, but several pertinent strikes have occurred since it was written. More specific information is needed to reveal the level of threat and help the public and decision-maker determine if a reasonable range of alternatives has been considered. We recommend adding additional information as to the number of strikes, species, damage, and if any flights have been aborted, etc.	FAA concurs that wildlife hazard staff and EIS consultants should be considering the most current information on bird strikes when evaluating hazard management program efficacy. However, the need for action is already clearly demonstrated in the EIS in Section 1.4.4. FAA would point out that bird and wildlife strike reports are voluntary. While complete details of every strike would be an improvement and would certainly assist in management decisions, this is not currently an FAA requirement. The EIS was updated to incorporate JNU's recent wildlife strike data.
U.S. Department of the Interior		
423	We recommend that alternative RSA-6A be adopted for this project. RSA-6A utilizes EMAS to reduce the extent of environmental disturbance to wetland habitats and minimizes impacts to wetland habitats on and adjacent to the Refuge.	FAA recognizes that Alternative RSA-6A would have the smallest development footprint. However, we concur with NMFS (see comment 432) that Alternative RSA-6B represents the least damaging environmentally preferred alternative. Regardless, in December 2006, Congress enacted Public Law 109-433 (Section 10), which requires that the Secretary of the U.S. Department of Transportation select the RSA alternative that is the least expensive but still meets FAA standards and does not shorten the useable runway length. This legislation requires selection of an RSA alternative based on cost, runway length, and FAA standards, and not the level of environmental impact. EMAS technology is more expensive than traditional fill. As such, RSA alternatives using EMAS (such as RSA-6A, RSA-6B, and RSA-6C) may not be selected in the Record of Decision.

Table M-2. Summary of DEIS Comments and FAA Responses, continued

#	Comment Summary/Excerpt	Response
424	<p>Another type of aircraft-bird strike avoidance technology was initially developed by the U.S. Geological Survey for the U.S. Navy. Research data on migratory bird occurrences for some areas of the country have been entered into a system that provides information on the probability of migratory bird location by elevation, Universal Transverse Mercator location, and time of year. This may help flight personnel avoid costly bird strikes and enhance the safety of aircraft and passengers, as well as birds flying aloft in the vicinity. This is now available commercially, and can be located by searching the internet using the acronym "BASH."</p>	<p>To our knowledge, the US Navy has no operational systems or tools that are available for BASH reduction efforts using modeling or regional radar systems. The US Air Force has the Bird Avoidance Model (BAM) and the Avian Hazard Advisory System (AHAS) that have been in operational use for over five years. These tools can assist an airport operator in knowing general periods of time when hazardous bird species may be in the region. These systems are commonly used to select training routes and ranges that should be avoided during certain periods of the year.</p>
425	<p>We believe cutting and thinning the float pond woodlands and clearing trees on nearby islands could eliminate an effective barrier that deters birds using the Refuge from flying across the airport runway. We recommend that trees in the float pond woodlands be left intact. National Audubon Society biologists have observed that the trees in the float pond woodlands act as a barrier. When birds fly north from the wetlands toward the float pond woodland, birds fly to the right or the left of the forest, instead of traveling through or over the trees to the float pond and runway. By removing this forest habitat, a cleared flyway to the runway would be available to birds.</p>	<p>Cutting and thinning of trees was only recommended as part of a phased program to remove northwest crows. This program would require active harassment efforts first, followed by selective cutting and thinning. At no point was it suggested to cut all of the trees. However, there is no evidence in the literature that suggest trees create a barrier to bird movements. It has been our experience using radar that birds generally fly over trees with little or no regard to them as a barrier. This is not to say that the local woodlands could not provide a barrier, particularly in terms of the height and/or location at which birds travel near the runways. Thinning is not included in FAA's preferred alternative in the EIS.</p>
426	<p>There is at least one bald eagle nest tree in the float pond woodlands, and eagles use the area to rest and fledge their young. The Bald and Golden Eagle Protection Act prohibits disturbance and destruction of nests and the taking of any eagle parts or eggs. Prior to implementing any actions that may impact bald eagles, including their nest trees and other habitat, the FAA will need to initiate consultation with the Juneau Fish and Wildlife Service Field Office staff.</p>	<p>Any bird/wildlife control efforts will ensure that all necessary consultations and permits are complete prior to working in areas near eagles.</p>
427	<p>To offset some of the loss of the wetland functions and values of Duck Creek, we recommend that the relocation design provide for oxbows to maintain wetland functions and spawning and rearing habitat for numerous fish species, including salmon and Dolly Varden char.</p>	<p>Salmon and Dolly Varden would not spawn in the reach with success in existing conditions due to frequent dewatering. Oxbow habitat is not consistent with safety concerns associated with wildlife hazards. An objective of Duck Creek relocation design would be to enhance fish passage, not fish spawning and rearing habitat.</p>

**Table M-2. Summary of DEIS Comments and FAA Responses, continued**

#	Comment Summary/Excerpt	Response
428	<p>We believe the Final EIS needs to reconsider the selection of the Eagle Beach Boy Scout property as the preferred method for mitigating wetland impacts resulting from the proposed project. Although this property has important ecological values, we believe it is located too far from the area affected by the airport and its values to fish and wildlife are different from those of the property being lost to airport expansion. We recommend that wetlands in the Lemon, Switzer, and Vanderbilt Creek areas be selected as the preferred sites to compensate for any fill occurring in the project area, since wetlands in these drainages are interconnected and support the valuable ecological functions of the wetlands adjacent to the Refuge.</p>	<p>Thank you for your input. The Eagle Beach property is no longer part of the compensatory mitigation plan as it may be further protected through the work of SealTrust and federal grants. Wetlands in the Lemon, Switzer, and Vanderbilt Creek areas were considered for inclusion to the mitigation package. FAA policy would allow preservation of these sites only due to the proximity to aircraft departure and landing routes (specifically the Lemon and Fox special departure procedures) and associated potential increase in wildlife hazards associated with wetlands enhancement. Refer to the response to comments 143, 389 and 394 regarding the process for developing a new mitigation plan. A conceptual mitigation plan is being prepared by the Airport in consultation with a number of state, local and federal agencies. A process for compensatory mitigation has been approved for incorporation into a Compensatory Mitigation Plan, to be included with the final project permits. Section 2.12.3 of the FEIS includes a summary description of this process.</p>
429	<p>While indicating that the [dike] trail would be relocated to Refuge lands, the Draft EIS and Section 4(f) evaluation provide no details on potential trail routes. The western boundary of the Refuge bisects the Mendenhall River. How the trail reroute would traverse this open water area and whether the entire trail would be rerouted outside the airport boundary needs clarification. We recommend that the Final EIS and Section 4(f) evaluation provide greater detail on trail relocation routes, including maps, and address details on how the trail would traverse the river. We concur that there are no feasible and prudent alternatives that would not require relocation of Dike Trail.</p>	<p>FAA concurs that more information concerning specific trail locations is desirable. Please, see Section 2.6 concerning possible RSA footprints, and resultant routes for the fence, EVAR/Dike Trail and Float Plane access road. Figures 2-23 through 2-30 of the FEIS illustrate the proposed locations of the Dike Trail and Float Plane Pond access road under each alternative. The trail and road would be partially on Airport property and partially on the Refuge for most alternatives.</p>
U.S. Environmental Protection Agency		
397	<p>Although the proposed action for the Wildlife Hazard Management Plan appears to be practicable, it will result in the loss of over 20 acres of estuarine wetlands with high and very high functional ratings. EPA is concerned that preferred alternatives identified in the DEIS for general aviation expansion (FW/RW-2), navigational lighting (NAV-2B), snow removal equipment and maintenance facility (SREF-3B1), and new access road to fuel farm (FF-1) will have adverse environmental impacts associated with storm water management, pollutant loading to the §303(d) listed streams and wetland functions.</p>	<p>FAA concurs that there will be adverse environmental impacts associated with these actions. Please, see relevant discussions in Chapter 4, particularly Sections 4.4.6, 4.5.6, 4.6.6, 4.7.6, 4.8.6 and 4.9.6.</p>

**Table M-2.** Summary of DEIS Comments and FAAResponses, continued

#	Comment Summary/Excerpt	Response
398	Both Duck and Jordan Creek are 303(d) listed impaired waterbodies with established TMDLs for specific pollutants. The proposed actions could significantly increase storm water runoff volumes, contributing to additional pollutants. Although the DEIS does a good job of describing the various actions, it is not clear that all possible steps to minimize storm water runoff and to comply with the TMDLs of Duck and Jordan Creeks have been considered.	We recognize the importance of the TMDLs as discussed in Section 3.6. Our analysis of impacts to water resources suggests that without additional treatment there will be additional pollutant loads to receiving waters. The specific steps to minimize water quality degradation have not been fully identified at this time and will be in the SWPPP and the permits. However, a list of measures taken to avoid or minimize environmental impacts is included in Section 2.12. We expect this list will be supplemented with additional measures developed in conjunction with the permit application and design drawings.
399	It is not clear in the DEIS that adequate compensatory mitigation has been developed to offset the unavoidable impacts of all of the actions including loss of high functioning estuarine wetlands that may occur. The EPA recommends that minimization and compensatory mitigation be augmented in the EIS. We recommend 3 additions: A Stormwater Management Plan, a Duck Creek Restoration Plan, and a Compensatory Mitigation Plan.	Please, refer to related comment responses, such as Comment Nos.143 and 394, regarding development of a compensatory mitigation plan. FAA concurs that a final Relocation Plan for Duck Creek and revised Stormwater Management Plan should be developed prior to construction initiation and as part of the permitting requirements. However, it should not be necessary to have these plans ready for the EIS or Record of Decision, as it is sufficient for analysis and decision-making to use the conceptual designs. The final Duck Creek Relocation plan and Stormwater management plan would occur after a conceptual plan has been reviewed and accepted as part of the EIS and Record of Decision.
400	The EPA recommends an interagency compensatory mitigation team be established to develop and manage the final compensatory mitigation plan.	FAA concurs that an interagency compensatory mitigation team is warranted (members of this team, including USFWS, the Corps, NMFS, EPA and ADF&G, were instrumental in mitigation criteria development during development of the DEIS, and have continued to participate in mitigation component selection and design subsequent to the DEIS).



Table M-2. Summary of DEIS Comments and FAA Responses, continued

#	Comment Summary/Excerpt	Response
401	<p>Alternative RSA-1 may adversely affect important functions and values for the wetlands that support essential fish habitat and provide mechanisms for nutrient transportation and export. Indirect effects...include loss of groundwater discharge and lateral flow, increase sediment/toxicant retention, nutrient transformation and export, loss of riparian support, loss of fish and wildlife habitat, and changes to and degradation of regional ecological diversity. The mitigation proposed in the DEIS appears not to be adequate to compensate for the unavoidable impacts to important aquatic resources. Corrective measures might require consideration of some other project alternative, additional mitigation measures, and/or additional compensatory mitigation. EPA rates this alternative EO.</p>	<p>The impacts to wetland type, acreage, and function under Alternative RSA-1 are detailed in Section 4.3.8.1 and are consistent with the assessment provided in the comment.</p> <p>A conceptual mitigation plan has been prepared by FAA and CBJ in consultation with a number of state, local and federal agencies. The Airport has been working with an interagency group comprised of the FAA, CBJ, DNR, NMFS, USFWS, EPA, ADFG, and SEAL Trust and others to develop a mitigation plan that would compensate for the unavoidable adverse impacts to wetlands and fisheries, wildlife habitat, and ecological function associated with the Airport's proposed actions. The feasibility of the final mitigation package will be demonstrated in the plan. Section 2.12.3 of the FEIS includes a summary description of the draft Compensatory Mitigation Plan.</p> <p>The current mitigation proposals focus on adding lands to the Refuge and preserving other lands via an in lieu fee agreement with SEAL Trust. The amount of compensation is based on functional capacity units impacted and on an agreed upon mitigation ratio. Please, also refer to the response to Comment Nos. 333 and 388.</p>
402	<p>Adverse environmental impacts associated with Alternative RSA-5C are significant because of the relative rarity of estuarine wetlands in Southeast Alaska and their local and regional importance, particularly to continued maintenance of fish and wildlife populations, and the impairment of hydrological functions sustaining the Refuge. The mitigation proposed in the DEIS appears not to be adequate to compensate for the unavoidable impacts to important aquatic resources. Corrective measures might require consideration of some other project alternative, additional mitigation measures, and/or additional compensatory mitigation. EPA rates this alternative EO.</p>	<p>FAA concurs with the impacts noted in the comment, as disclosed in the EIS particularly in Section 4.3.8.2. Impacts to wetland acreage and functional capacity units have been accounted for during development of the draft mitigation plan. Please, refer to the responses to previous comments such as Comment Nos. 143, 389 and 394 regarding development of a compensatory mitigation plan.</p> <p>FAA recognizes that the EPA objects to this alternative. However, in December 2006, Congress enacted Public Law 109-433 (Section 10), which requires that the Secretary of the U.S. Department of Transportation select the RSA alternative that is the least expensive but still meets FAA standards and does not shorten the useable runway length. This legislation requires selection of an RSA alternative based on cost, runway length, and FAA standards, and not the level of environmental impact.</p>
403	<p>RSA-6A: Our review has identified environmental impacts that should be avoided in order to protect the environment. Corrective measures might require additional mitigation measures, and/or additional compensatory mitigation. This alternative is rated EC.</p>	<p>FAA acknowledges EPA's environmental concerns about this alternative and recognizes that mitigation for impacts is necessary. Please, see the second half of the response to Comment No. 402 for information about legislation limiting FAA's selection of an RSA alternative.</p>

**Table M-2.** Summary of DEIS Comments and FAA Responses, continued

#	Comment Summary/Excerpt	Response
404	RSA-6B: Our review has identified environmental impacts that should be avoided in order to protect the environment. Corrective measures might require additional mitigation measures, and/or additional compensatory mitigation. This alternative is rated EC.	FAA acknowledges EPA's environmental concerns about this alternative and recognizes that mitigation for impacts is necessary. Please, see the second half of the response to Comment No. 402 for information about legislation limiting FAA's selection of an RSA alternative.
405	RSA-6C: The mitigation proposed in the DEIS appears not to be adequate to compensate for the unavoidable impacts to important aquatic resources. Corrective measures might require consideration of some other project alternative, additional mitigation measures, and/or additional compensatory mitigation. This alternative is rated EO.	The Airport has been working with an interagency group comprised of the FAA, CBJ, NMFS, USFWS, EPA, ADFG, DNR, and SEAL Trust and others to develop a mitigation plan that would compensate for the unavoidable adverse impacts to wetlands and fisheries associated with the Airport's proposed actions. The feasibility of the final mitigation package will be demonstrated in the plan. The final plan will be summarized in Chapter 2 of the Final EIS and may be included as an appendix to the document. The FAA recognizes that EPA objects to this alternative and has not selected this as the agency preferred alternative.
406	WH-1: EPA has environmental objections to this proposed action regarding impacts to 13 acres of estuarine wetlands that are hydrologically connected to the Mendenhall River and Duck Creek. The mitigation proposed in the DEIS appears not to be adequate to compensate for the unavoidable impacts to important aquatic resources. Corrective measures might require consideration of some other project alternative, additional mitigation measures, and/or additional compensatory mitigation. This alternative is rated EO.	We concur that the mitigation proposed in the DEIS would not adequately compensate for the unavoidable impacts to important aquatic resources. Development of an acceptable mitigation plan is ongoing.

Table M-2. Summary of DEIS Comments and FAA Responses, continued

#	Comment Summary/Excerpt	Response
407	<p>EPA supports FAA's additional actions to increase staff and resources for the wildlife hazards management program, eliminate the on-airport waterfowl hunting program, and encourage establishment of a wildlife hazards workgroup. However, in order to avoid and minimize direct impacts to the estuarine wetland areas adjacent to the Mendenhall River and Duck Creek, EPA believes that there are non-structural alternatives to managing wildlife hazards along the west end of the airport. We recommend other options such as increasing hazing in the Refuge at certain times of the year when birds feed on salmon in these wetlands. In addition, we recommend consideration of the installation of exclusion nets, and increasing the frequency and intensity of noise could serve to displace birds from the area in order to avoid impacts to 13 acres of high function and value estuarine wetlands. Furthermore, we recommend an adaptive management approach to managing wildlife hazards for the airport that includes routine monitoring by staff on the effectiveness of these wildlife hazard management actions.</p>	<p>The preferred alternative for wildlife hazard management includes adaptive management strategies (and by comments on the DEIS, JNU has apparently committed to adaptive management for the program). The "trade-off" between habitat management and active control efforts has always been delicate. Certainly, active control efforts are more difficult and often less effective when there is a strong attraction to the habitat (such as a food source). It is often desirable to eliminate to the greatest extent possible, the habitat attraction, and then supplement with active control. In many cases, however, habitat management is impractical or impossible, leaving active control as the management tool. FAA believes that for the specific case of wetlands west of the runway, it is appropriate to alter the habitat to reduce attractiveness to wildlife. This is particularly true because of the synergistic opportunities presented to create runway safety area while also eliminating some habitat. The FAA and the airport generally share the cost of habitat management programs, while the airport alone generally funds active control programs. It is difficult to predict how much active control efforts would cost (manpower and equipment/supplies) since insufficient effort has been put into effect at JNU, as detailed in Section 2.5.2. The recommendation to routinely monitor wildlife hazard management efforts at JNU are included as part of the preferred alternative.</p>
408	<p>The Final EIS should identify additional mitigation measures for Duck Creek. These mitigation measures should include expanding the vegetated buffer area on both sides of the creek from 50 feet to 100 feet to support a larger floodplain area. This would provide for additional stormwater infiltration and remediation. Proposed access roads and creek crossings should incorporate full span bridges rather than culverts. In the Final EIS, EPA recommends including a Duck Creek Restoration Plan, which incorporates these measures.</p>	<p>The vegetated buffer already exists in the proposed 50- to 100-foot dimensions cited. As shown in Figure 2-31, the average width is 75 feet; for another perspective, CBU has expressed concern that the proposed buffer is excessive (see comment 207). A Duck Creek Restoration Plan is currently outside the scope of work for the FEIS but FAA supports the idea to have a final Plan completed prior to issuance of permits and initiation of construction work.</p>

**Table M-2.** Summary of DEIS Comments and FAAResponses, continued

#	Comment Summary/Excerpt	Response
409	<p>FW/RW-2: EPA's environmental objections to this preferred alternative relate to the major relocation of Duck Creek and impacts of the Northwest Development Area. We advise that any work in Duck Creek should be consistent with TMDLs and should not further degrade water quality. The mitigation proposed in the DEIS appears not to be adequate to compensate for the unavoidable impacts to important aquatic resources. Corrective measures might require consideration of some other project alternative, additional mitigation measures, and/or additional compensatory mitigation. This alternative is rated EO.</p>	<p>The vegetated buffer already exists in the proposed 50- to 100-foot dimensions cited. As shown in Figure 2-31, the average width is 75 feet; for another perspective, CBJ has expressed concern that the proposed buffer is excessive (see comment 207). A Duck Creek Restoration Plan is currently outside the scope of work for the FEIS but FAA supports the idea to have a final Plan completed prior to issuance of permits and initiation of construction work.</p>
410	<p>Alternative Nav 2-B: The mitigation proposed in the DEIS appears not to be adequate to compensate for the unavoidable impacts to important aquatic resources. EPA's review has identified environmental impacts that may require additional mitigation measures and compensatory mitigation for unavoidable wetland impacts. EPA rates this alternative EC.</p>	<p>Alternative NAV-2B, in and of itself, would impact 0.8 acre – 2.1 acres of wetlands, depending on the RSA alternative selected. These impacts have been and will continue to be accounted for during development of the compensatory mitigation plan. Section 2.12.3 of the FEIS includes a summary description of the draft Compensatory Mitigation Plan.</p>
411	<p>Alternative SREF-3B1: The mitigation proposed in the DEIS appears not to be adequate to compensate for the unavoidable impacts to important aquatic resources. EPA's review has identified environmental impacts that may require additional mitigation measures and compensatory mitigation for unavoidable wetland impacts. EPA rates this alternative EC.</p>	<p>Impacts to wetland acreage and functional capacity units have been accounted for during development of the draft mitigation plan. Refer to the responses to previous comments, such as Comment Nos. 143, 389 and 394, regarding the design of an adequate compensatory mitigation plan. Section 2.12.3 of the FEIS includes a summary description of the draft Compensatory Mitigation Plan.</p>
412	<p>Alternative FF-1: Alternative FF-1 would directly impact 0.4 acres of wetlands associated with the Duck Creek floodplain area. These wetlands are rated high for surface hydrological control and sediment/toxicant retention. Corrective measures may require consideration of additional mitigation measures and compensatory mitigation for unavoidable wetland impacts. EPA rates this alternative EC.</p>	<p>Impacts to wetland acreage and functional capacity units have been accounted for during development of the draft mitigation plan. Refer to the responses to previous comments, such as Comment Nos. 143, 389 and 394, regarding the design of an adequate compensatory mitigation plan. Section 2.12.3 of the FEIS includes a summary description of the draft Compensatory Mitigation Plan.</p>

**Table M-2. Summary of DEIS Comments and FAA Responses, continued**

#	Comment Summary/Excerpt	Response
413	<p>Future actions and/or discharges associated with airport improvements should be consistent with the TMDLs established for Duck Creek and Jordan Creek. The ADEC should be consulted regarding future actions that might result in impacts to dissolved oxygen or sediment loading in Jordan Creek, as ADEC is in the process of developing TMDLs for these pollutant parameters. The EIS should include additional information that would demonstrate how the Wildlife Hazard Management Plan Program, relocation of Duck Creek for the Northwest Development Area, and the access road to the fuel farm would be consistent with the already established TMDLs and Alaska water quality standards. Similarly for Jordan Creek, the EIS should describe how the lateral RSA development, Wildlife Hazard Management Plan (WHMP) and mitigation measures would be consistent with the TMDLs and would not further degrade water quality.</p>	<p>Duck Creek would experience less dewatering due to the proposed liner included as part of the relocation (See Figure 2-38 of the FEIS), and would gain vegetative buffers serving as riparian filter strips (See Figures 2-41 and 2-33 of the FEIS). Both of these changes are consistent with meeting TMDLs. Flow retention in Duck Creek via a liner would contribute to dissolved oxygen meeting water quality standards more consistently. The proposed riparian filter strips would intercept sediment prior to entering Duck Creek. Jordan Creek might experience less water quality impacts from snow removal with the proposed RSA, depending on operational practices. The proposed lateral RSA on the south provides an opportunity for removed snow to sit on the RSA surface. The longer that snow containing urea and sand sits on the RSA, the more likely that carbon compounds will break down from the urea application, and that sand will settle on the RSA when compared to current conditions. The proposed culvert extensions on Jordan Creek should be neutral relative to water quality. Project mitigation is still under development. FAA concurs, however, that the projects should be designed to comply with the TMDL's established for Duck and Jordan Creek and consistent with the objectives of updated storm water management plan.</p>
414	<p>EPA recommends that the Final EIS include a Duck Creek Restoration Plan with the goal of improving water quality. We suggest that the Restoration Plan should include information on construction techniques, best management practices, vegetation planting plans, how invasive species would be controlled, dimensions of the proposed channel, relevant hydrological information, monitoring, corrective measures, and adaptive management.</p>	<p>The proposed relocation improves water quality by improving transport and by limiting dewatering with the use of a lined channel. The relocated channel would have a steeper slope (0.5% versus existing 0.1%), and the resulting increase in stream power will help the channel flush, which may assist salmonids migrate to upstream habitat. Figure 2-31 describes typical channel dimensions based on geomorphic fieldwork in September 2001. A Duck Creek Restoration Plan is outside the scope of work for the FEIS but FAA supports the idea to have a final Plan completed prior to issuance of permits and initiation of construction work.</p>

**Table M-2. Summary of DEIS Comments and FAA Responses, continued**

#	Comment Summary/Excerpt	Response
415	If collection and treatment facilities are not available or used, pollutants could enter receiving streams as runoff through drainage systems. EPA recommends that the Final EIS describe stormwater management facilities, detention/retention areas, active and passive treatment, and drainage systems to address the proposed actions at the Juneau International Airport. The description should identify the location of receiving waters, proposed oil and water separators, catchment basins, aircraft de-icing areas, and proposed snow storage areas. This information should also include plans for storm water management, including containment and treatment of storm water, Best Management Practices, and erosion control measures during project construction.	We concur with the needs expressed in this comment. The final EIS can't address the scope of the SWPPP. However, the Airport must update the SWPPP to address the stormwater impacts of the projects that are approved as a result of the EIS. The NPDES erosion and sediment control permit for the projects will include best management practices to address these issues.
416	The Final EIS should describe how future increases in impervious surface will be managed to maintain water quality in receiving waters, such as Jordan Creek, Duck Creek, and the Mendenhall River. In addition, the Final EIS should describe in detail the dimensions of the new storm water conveyance pipes to handle the increased storm water runoff volumes caused by the new impervious surface over infield areas.	We concur with the needs expressed in this comment. The final EIS can't address the scope of the SWPPP. However, the Airport must update the SWPPP to address the stormwater impacts of the projects that are approved as a result of the EIS. The NPDES erosion and sediment control permit for the projects will include best management practices to address these issues.
417	EPA has environmental objections to the proposed filling and/or dredging of approximately 13.5 acres of the Mendenhall River/Duck Creek estuarine wetlands complex on the west end of the Airport boundary as proposed under the Wildlife Hazard Management Plan Alternative. As an alternative to filling and/or dredging these wetlands, EPA recommends maintaining them as natural biofiltration areas for storm water runoff. We recommend that the Final EIS include an updated Storm Water Management Plan that incorporates the proposed airport actions and addresses increases in impervious surfaces at JNU.	FAA has determined that habitat modification is the appropriate solution to reduce the hazardous wildlife attractant on the west end as described in more detail in response to Comment No. 407. Also see the response to Comment No. 415.
418	EPA recommends that consistency with the Refuge Management Plan be used as a criterion in selecting the Agency Preferred Alternative for the RSA.	In December 2006, Congress enacted Public Law 109-433 (Section 10), which requires that the Secretary of the U.S. Department of Transportation select the RSA alternative that is the least expensive but still meets FAA standards and does not shorten the useable runway length. This legislation requires selection of an RSA alternative based on cost, runway length, and FAA standards, and not the level of environmental impact.

**Table M-2. Summary of DEIS Comments and FAAResponses, continued**

#	Comment Summary/Excerpt	Response
419	<p>The DEIS identifies methods to reduce and minimize environmental impacts from the RSA end slopes and side slopes, Jordan Creek culvert, East Runway Slough, and MALSR access (Section 2.11; Page 2-214). Mitigation measures should be identified and included for each of the proposed actions. After the preferred alternatives have been identified, we recommend that the Final EIS include specific mitigation measures for RSA, WHMP, Aviation Development, SREF, and FF that would minimize adverse impacts to the important aquatic resources. Mitigation measures for each action should include, but not be limited to, construction timing windows, construction techniques, erosion control planning, implementation of best management practices, erosion control measures, monitoring, and adaptive management.</p>	<p>Section 2.11 provides a description of measures designed to reduce or minimize impacts to key resource areas such as estuarine marsh and Jordan Creek. The FAA has added more information to this Section describing possible methods to avoid or minimize impacts. Thank you for your input on additional mitigation measures. FAA concurs that it is appropriate to identify specific mitigation by action, as well as construction and control objectives to minimize environmental impacts. Please see the revised Section 2.12 of the FEIS, which specifically identifies avoidance and minimization mechanisms for each action proposed. We anticipate the final permits for each of the projects, issued after consideration by the agencies of the FEIS and Record of Decision, may include additional such measures, including specific construction techniques.</p>
420	<p>Although the currently proposed compensatory mitigation plan may be viable, there may be problems associated with this proposal. Therefore, EPA recommends that the compensatory mitigation plan include additional mitigation options in order to provide a greater range and more flexibility for the public and agencies to consider. This revised compensatory mitigation plan should be included in the Final EIS. Additional compensatory mitigation options for consideration should include, among others, the following: Storm Water Management Plan; Duck Creek Restoration Plan; Bridge over Duck Creek; Conservation Easements; In-lieu Fees; Interagency State/Federal Compensatory Mitigation Team; Mitigation Ratios.</p>	<p>Thank you for the recommendations concerning compensatory mitigation options, all of which are being considered as part of the efforts to revise the compensatory mitigation plan. Please refer to the responses to Comment Nos. 143 and 394 regarding the design of an adequate compensatory mitigation plan. Also see response to comments concerning the establishment of other plans, such as Comment No. 399. A conceptual mitigation plan is being prepared by the Airport in consultation with a number of state, local and federal agencies. A process for compensatory mitigation has been approved for incorporation into a Compensatory Mitigation Plan, to be included with the final project permits. Section 2.12.3 of the FEIS includes a summary description of this process.</p>
421	<p>EPA recommends that FAA and CBJ engage the Corps of Engineers to initiate an Interagency State and Federal Compensatory Mitigation Review Team that would oversee and monitor the development and implementation of a compensatory mitigation plan for the Juneau International Airport.</p>	<p>Please, refer to the responses to Comments 143, 389, and 394 regarding the design of an adequate compensatory mitigation plan. FAA concurs that a collaborative effort at mitigation planning is most desirable. A conceptual mitigation plan is being prepared by the Airport in consultation with a number of state, local and federal agencies. A process for compensatory mitigation has been approved for incorporation into a Compensatory Mitigation Plan, to be included with the final project permits. Section 2.12.3 of the FEIS includes a summary description of this process.</p>
422	<p>The DEIS establishes for the Eagle Beach mitigation site a mitigation ratio of 1.24 functional units gained for each functional unit lost (Page 2-230). The technical basis and rationale for this mitigation ratio should be discussed in the Final EIS.</p>	<p>Section 2.12.3 of the FEIS summarizes the compensatory mitigation plan that has been approved, in process, by the state, local, and federal agencies.</p>

Table M-2. Summary of DEIS Comments and FAA Responses, continued

#	Comment Summary/Excerpt	Response
Waring		
95	I enjoy the dike trail too often to ever give it up!	Thank you for the comment. JNU has committed to maintain the dike trail regardless of the alternatives selected for implementation.
96	As there is an option that minimizes impact on the Refuge, we should use it.	Thank you for your comment.
Watson		
121	I am disappointed in FAA's approach as it seemed through their presentations on the projects that their plan was not optional. Plans presented this way almost always cost more and end up as a failure. Our city cannot afford to retrace our steps. FAA has made it abundantly clear they would not share any risk in this project beyond one year.	The information presented by FAA to the CBJ Assembly, and in the DEIS on EMAS and DOT Section 4(f) applicability was in response to questions and requests for information from the Assembly, the Airport Board and others. A 5-year warranty of the EMAS bed and the replacement of EMAS bed at the end of its 10-year life cycle is eligible for FAA Airport Improvement program funding.
Williams		
63	EMAS should be abandoned or deferred until there is substantial proof that it really does work, not just that it should work, or that it should work in simulations.	As noted in many other comment responses, there is considerable evidence from a number of airports that EMAS does work. See, for example, Comment No. 50.
64	The proposed use of EMAS at Juneau is premature. FAA should hold off on implementing EMAS to a later date, after this technology has been proven in an environment very similar to Juneau, not some down south environment that is marginally similar.	EMAS has been installed at a number of airports that experience high levels of humidity and temperature extremes, including JFK in New York and MSP in Minnesota. The technology has proven to be successful in the arresting of three (3) aircraft (i.e., a B-747 and MD-11 cargo aircraft, and a SAAB 340 commuter aircraft) at JFK, which experiences cold wet winters within a marine environment. These aircraft arrests are credited with saving both lives and tens of millions of dollars in aircraft equipment. In December 2006, Congress enacted Public Law 109-433 (Section 10) which requires that the U.S. Secretary of Transportation to select as the preferred RSA alternative that alternative which has the lowest overall cost, does not shorten the useable length of the runway, and meets FAA standards. The EMAS alternatives evaluated in the EIS are more costly than those alternatives using traditional RSA fill. Therefore, the FAA cannot select Alternative RSA-6A, -6B, or -6C as the preferred RSA alternative.



Table M-2. Summary of DEIS Comments and FAA Responses, continued

#	Comment Summary/Excerpt	Response
65	Underground pipelines are twice as expensive.	We concur that the cost to install a pipeline and fuel distribution system would be approximately twice the cost to construct a new road access to the fuel farm. See Sections 2.8.3.1 and 2.8.3.2.
66	An underground pipeline would use scarce hangar space (for depot) and would disturb more of the flood plain than the road.	We concur that the fuel distribution system would require apron space that may otherwise be dedicated to aircraft parking. However, the long-term impacts on the floodplain would be greater for a road than for the buried pipeline, as the trenching zone would be reclaimed at project completion.
67	An underground pipeline option doubles the number of truck-to-tank and tank-to-truck-transfers, and effectively expands the fuel farm area. Both of these types of transfers increase environmental risk and increase the risk of undetected spills.	The number of truck/tank transfers would not double but would actually remain the same with a pipeline system, as vendor trucks used to re-fuel aircraft would fill up at the on apron fuel distribution system, rather than at the bulk fuel farm. We concur that the risks of undetected leaks (not spills) increase with the pipeline system, as disclosed in Section 2.8.3.2.
68	There isn't that much more land that will need to be taken away from the Refuge for RSA-5C, and you will have a proven, low cost, low maintenance option.	Thank you for your comment. The difference in land required for RSA vs. EMAS alternatives is summarized in Table 2-13 and disclosed for numerous environmental resources in Section 4.3. Under Section 404 of the Clean Water Act there is a requirement to minimize wetland impacts to the maximum extent practicable. The alternative that takes more land from the Refuge also involves filling more high value wetlands than EMAS alternatives do.
69	It is important that emphasis not be placed on additional hazing or additional labor-intensive management. The smartest way to managing wildlife hazards is to reduce the attractants. It is the best for wildlife, is cost effective, and reduces the amount of the problem.	Both hazing and habitat management are important components of a wildlife hazard management program. Removal of attractive habitat alone will not solve the problem. Even if all of the habitat on the Airport and in the surrounding area was removed, many bird species would still loaf on the paved surfaces during periods of inclement weather. There are no airports in the United States that have abandoned active control by removing all attractive habitats. Further, as the conceptual cost projections in Appendix A demonstrate, habitat removal is not always the most cost effective "solution."
Wilson		
87	Duck Creek is not a fish stream. It is dry several months a year. The USGS says that due to static rebound, it is just a drainage ditch for runoff. These facts cannot support moving it, and an adequate culvert and fill should be put in place so we can use the area.	The analysis in the EIS and studies by various agencies point out functions performed by Lower Duck Creek including: feed fish habitat (herring, eulachon, etc.), floodplain, and transport functions to Upper Duck Creek.
88	As a tenant and user, I cannot afford unnecessary added costs to my operations.	FAA would not propose that any tenant or airport user be saddled with unnecessary added costs.

**Table M-2. Summary of DEIS Comments and FAA Responses, continued**

#	Comment Summary/Excerpt	Response
89	I am not aware of any overshoots at Juneau but can think of 3 overshoots. I have not seen the effects of an airplane landing short on EMAS, but I can imagine the results.	FAA Order 5200.9 Section 6a declares that EMAS, when installed in accordance with Advisory Circular (AC) 150/5220-22a, provides an acceptable level of safety for undershoots. The order, in Section 6a(3), states that as part of the EMAS design and installation “the resulting RSA must provide adequate protection for aircraft that touch down prior to the runway threshold (undershoot).” Finally, AC 150/5220-22A Sections 8c and 8j require that EMAS be designed to take into consideration impacts to aircraft that land short and to “not cause control problems for aircraft undershoots which touch down in the EMAS bed.”
90	EMAS is an unproven product for use in a temperate rain forest. It has already failed [the UAF] test conducted at JNU and has not lasted the 10 years discussed in the EIS at any other airport.	EMAS has been installed at a number of airports that experience high levels of humidity and temperature extremes, including JFK in New York and MSP in Minnesota. The technology has proven to be successful in the arresting of three (3) aircraft (i.e., a B-747 and MD-11 cargo aircraft, and a SAAB 340 commuter aircraft) at JFK, which experiences cold wet winters within a marine environment. These aircraft arrests are credited with saving both lives and ten of millions of dollars in aircraft equipment. Testing done by the University of Alaska is not relevant to the discussion because it did not evaluate EMAS as a system (i.e., standard installation procedures were not utilized). The blocks were placed outside, exposed to the elements with no side coatings, backer rods, caulking or vents, and no tack coat asphalt was used between the bottom of the blocks and the pavement to prevent groundwater intrusion. All of these design components are critical to a proper EMAS installation.
91	The proposed action is less expensive to construct and maintain than a pipeline.	We concur. See Sections 2.8.3.1 and 2.8.3.2.
92	I support consolidation of fueling and re-fueling, better to contain to one area if there is a spill.	None of the alternatives would consolidate fueling activities to one location. For a new fuel farm road, fuel trucks would load fuel at the bulk fuel farm and re-fuel aircraft at individual parking locations. For a fuel pipeline and distribution system, fuel trucks would load fuel on the apron at the distribution pumps, then re-fuel aircraft at individual parking locations.
93	We must...not add to the expenses of the airport for maintenance. Conventional fill is the least expensive, and other alternatives are more costly to construct and will add significantly to maintenance costs.	We concur that alternatives relying on standard RSA at runway ends are less expensive to construct, and substantially less expensive to maintain over a 20-year lifetime than alternatives using EMAS. Mitigation costs would be expected to be greater for RSA alternatives incorporating standard RSAs due to the greater loss of habitat.