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ABBREVIATIONS AND ACRONYMS

AAC	Alaska Administrative Code
AAIA	Airport and Airway Improvement Act
AC	Advisory Circular
ACMA	Alaska Coastal Management Act of 1997
ACMP	Alaska Coastal Management Program
ADEC	Alaska Department of Environmental Conservation
ADF&G	Alaska Department of Fish and Game
ADL	Alaska Department of Labor
ADOT	Alaska Department of Transportation and Public Facilities
AEL&P	Alaska Electric Light and Power
AF	Airways Facility Division of FAA
AGL	above ground level
Airline	Alaska Airlines
Airport	Juneau International Airport
AKNHP	Alaska Natural Heritage Program
Alaska DNR or ADNDR	Alaska Department of Natural Resources
ALP	Airport Layout Plan
ALS	Approach Lighting System
ALSF	Approach Lighting with Sequential Flashers
AMHS	Alaska Marine Highway System
ANCA	Airport Noise and Capacity Act of 1990
APU	auxiliary power unit
AS	Alaska Statute
ASNA	Aviation Safety and Noise Abatement Act of 1979
ASOS	Automated Surface Observation System
ATC	Air Traffic Control
ATCT	Air Traffic Control Tower
BA	biological assessment
BLM	Bureau of Land Management
BMP	best management practice
BOD	Biochemical Oxygen Demand
CATI	Category I Instrument Landing System (uses MALSR)
CATII	Category II Instrument Landing System (uses ALSF-2)
CATIII	Category III Instrument Landing System (uses ALSF-2)
CBJ	City and Borough of Juneau
CBRA	Coastal Barrier Resources Act
CE	Categorical Exclusion
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
cfs	cubic feet per second
Corps	U.S. Army Corps of Engineers

Juneau FEIS
Abbreviations and Acronyms

CZMA	Coastal Zone Management Act of 1972
dB	decibel
dBA	decibel A-weighted (A-weighted noise curve)
DCAG	Duck Creek Advisory Group
DEIS	Draft Environmental Impact Statement
DIPAC	Douglas Island Pink and Chum, Inc.
DME	distance measuring equipment
DNL (or Ldn)	Day-Night Equivalent Sound Level (or Day-Night Average Sound Level, or Day-Night Noise Level)
DO	dissolved oxygen
DOI	U.S. Department of the Interior
DOT	U.S. Department of Transportation
DRO	diesel range organics
EA	environmental assessment
EDMS	Emissions and Dispersion Modeling System
EFH	Essential Fish Habitat
EIS	environmental impact statement
EMAS	Engineered Materials Arresting System
EO	Executive Order
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
FAA	Federal Aviation Administration
FAR	Federal Aviation Regulation
FBO	Fixed Base Operator
FEIS	Final Environmental Impact Statement
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FICAN	Federal Inter-agency Committee on Aircraft Noise
FICON	Federal Inter-agency Committee on Noise
FIRM	flood insurance rate maps
FMS	Flight Management System
FOD	foreign object debris
FONSI	Finding of No Significant Impact
Forest	Tongass National Forest
fps	feet per second
FR	Federal Register
FTA	Federal Transit Administration
FWS (or USFWS)	U.S. Fish and Wildlife Service
GA	General Aviation
GIS	geographic information systems
GPS	global positioning system
GRO	gasoline range organics
GSE	ground service/support equipment

HDPE	high density polyethylene
HIRL	High Intensity Runway Lights
Hz	Hertz
IFR	Instrument Flight Rule
ILS	Instrument Landing System
INM	Integrated Noise Model, Version 6.1
JCMP	Juneau Coastal Management Plan
JNU	Juneau International Airport
lbs	pounds
LDA	Localizer Directional Aid
LDIN	lead-in lights
Ldn (or DNL)	Day-Night Equivalent Sound Level (or Day-Night Average Sound Level, or Day-Night Noise Level)
LEQ	Equivalent Noise Level (or Equivalent Sound Level)
MALS	Medium-intensity Approach Lighting System
MALSR	Medium-intensity Approach Lighting System with Runway Alignment Indicator Lights
MHHW	Mean Higher High Water
MLLW	Mean Lower Low Water
MLS	Microwave Landing System
MNL	Maximum Noise Level
msl	mean sea level
MWP	Mendenhall Watershed Partnership
NA (or N/A or n/a)	not applicable
NAAQS	National Ambient Air Quality Standards
NANCO	National Association of Noise Control Officials
NDB	Non-Directional Beacon
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NLR	noise level reduction
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NOx	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
NTU	nephelometric turbidity units
NWI	National Wetlands Inventory
NWRC	National Wildlife Research Center
ODALS	Omnidirectional Approach Lighting System
OFA	Object Free Area
OSHA	Occupational Safety and Health Administration
Part 150	FAR Part 150 Noise Compatibility Planning
PAPI	Precision Approach Path Indicator

Juneau FEIS
Abbreviations and Acronyms

PM ₁₀	particulate matter less than 10 microns in diameter
PM _{2.5}	particulate matter less than 2.5 microns in diameter
PPR	Prior Permission Required Pavement
ppt	parts per thousand
PVC	Poor Visibility and Ceiling
R/W or Rwy	runway
RCO	Remote Communications Outlet
Refuge	Mendenhall Wetlands State Game Refuge
REIL	Runway End Identifier Lights
RNAV	Required Navigational Approach
RNP	Required Navigational Performance
ROFA	Runway Object Free Area
RPZ	Runway Protection Zone (once called a Clear Zone)
RSA	Runway Safety Area
RTR	Remote Transmitter Receiver
RVR	Runway Visual Range
SAGA	Southeast Alaska Guidance Association
SATP	Southeast Alaska Regional Transportation Plan
SEARHC	Southeast Alaska Regional Health Consortium
SEL	sound exposure level (or single-event sound exposure level)
SHPO	State Historic Preservation Office
SIP	Alaska State Implementation Plan
SO _x	sulfur oxides
SREF	Snow Removal Equipment and Maintenance Facility
TA	time above
TACAN	Tactical Air Navigation
TAF	Terminal Area Forecast
TCP	traditional cultural property
TES	threatened, endangered, and sensitive
TMDL	total maximum daily load
U.S.C.	U.S. Code
USDA	U.S. Department of Agriculture
USFS	U.S. Forest Service
USFWS (or FWS)	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UST	underground storage tank
UV	ultraviolet
uW	Microsiemens per Centimeter
VASI	Visual Approach Slope Indicator
VFR	Visual Flight Rule
VOC	volatile organic compound
VOR	Very High Frequency Omnidirectional Range

VORTAC	Very High Frequency Omnidirectional Range Station with Tactical Air Navigation
WET	Wetland Evaluation Technique
WHA	Wildlife Hazard Assessment
WHMP	Wildlife Hazard Management Plan

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GLOSSARY

100-year flood: A riverine flood event with a 1% chance of occurring in any given year.

100-year floodplain: The land area inundated during the 100-year flood.

303(d)-listed Streams: Streams in which water quality is impaired; also known as "water quality-limited streams," per Section 303(d) of the Clean Water Act, which requires jurisdictions to establish priority rankings for waters.

accelerate stop distance available (ASDA): The runway plus stopway length declared available and suitable for the acceleration and deceleration of an airplane aborting a takeoff.

acre-foot: The volume required to cover one acre to a depth of one foot (i.e., 43,560 cubic feet); a measure for volumes of ponds, reservoirs, floodplains, marshplains, etc.

active raptor nest: A nest documented as occupied by a raptor within the 3-year period preceding proposed construction.

adsorption: The attachment or adhesion of a material to a solid or liquid when in contact. For example, some chemicals or minerals in surface water may attach (become *adsorbed*) to soil as the water infiltrates the ground.

affected environment: The existing environmental conditions of the potentially affected geographic area or areas.

air carrier: A commercial airline with published schedules operating at least five round trips per week.

air dispersion modeling: A complex computer model that calculates ambient concentrations of air pollutants.

Air Route Traffic Control Center: An FAA facility established to provide air traffic control service to aircraft operating on Instrument Flight Rule (IFR) flight plans within controlled airspace during the en route portion of flight.

air taxi: An aircraft certified for commercial service, available for hire on demand.

air traffic control (ATC): A system designed around a series of centers, zones, and sectors that are each staffed with individual controllers providing guidance to aircraft operators. The various air traffic control system divisions include the Air Traffic Control System Command Center (ATCSCC), Air Route Traffic Control Centers (ARTCC), Terminal Radar Approach Control, and the airports' individual Air Traffic Control Towers (ATCT).

aircraft operations: The total number of movements—in landings (arrivals) plus takeoffs (departures)—from an airport.

Airport Layout Plan (ALP): The plan of an airport showing the layout of existing and proposed airport facilities.

Airport Master Plan: A comprehensive plan to guide the long-term physical development of an airport.

airport traffic control tower (ATCT): The airport traffic control facility located on an airport that is responsible for traffic separation within the immediate vicinity of the airport and on the surface of the airport.

airshed: A geographic area with similar topography and meteorology, within which the airflow is contained the majority of the time.

all-terrain vehicle: A wheeled or tracked vehicle, other than a snowmobile, designed primarily for recreational use or for the transportation of property or equipment on poorly developed or undeveloped roads/rights-of-way, marshland, open country, or other unprepared surfaces.

alluvial fan: A fan-shaped deposit of unsorted stream sand and gravel located where an ephemeral stream transitions from a relatively steep mountain valley onto a relatively flat plain.

alluvial valley: A valley containing stream-deposited silt, sand, and gravel.

alluvial: Deposited by a stream.

alluvium: Unconsolidated or poorly consolidated gravel sands and clays, deposited by streams and rivers on riverbeds, floodplains, and alluvial fans.

alternatives: Approaches to a project that differ from the Proposed Action but address the project purpose and need, as developed through the NEPA process.

ambient concentration: The mass of a pollutant in a given volume of air. It is typically measured as micrograms of pollutant per cubic meter of air.

ambient noise: The total sum of background noise from all sources in a given place and time characteristic of an environment.

ambient: The environment as it exists at the point of measurement and against which changes or impacts are measured.

anadromous fish: Fish that spend all or part of their adult life in salt water and that return to freshwater streams and rivers to spawn.

analysis area: The geographic area that is analyzed to predict the possible effect that may be associated with proposed alternatives. This area varies in scale depending on the discipline being discussed or the relationship being described.

anti-icing chemical: A chemical used by an airport or operators to prevent icing on aircraft or airfield surfaces.

antiquities: A general term for archaeological or paleontological resources that are at least 100 years of age and which tangibly represent or have the potential to yield information on historical or prehistoric cultures or extinct plants and animals.

aquatic resources: Biological resources (e.g., plants, animals, and other life forms) present in or dependent on streams, lakes, and other surface water.

aquifer: A body of rock that is sufficiently permeable to conduct groundwater and to yield economically significant quantities of water to wells and springs.

arrival procedure: Structured routes that provide predefined paths leading toward ultimate landing at an established airport. These procedures always include a route to follow, and they may also include altitude and speed constraints appropriate for the arrival. Standard Terminal Arrival Procedures (STARs), Standard Instrument Approach Procedures (SIAPs) and Profile Descents are examples of published arrival procedures.

arrival: The act of landing at an airport.

assemblage: Rocks grouped together by age or similar origin.

assessment: The act of evaluating and interpreting data and information for a defined purpose.

authorized officer: The federal employee who has the delegated authority to make a specific decision. A person designated by an agency as being in the position to speak for and commit the agency to action.

auxiliary power unit (APU): A self-contained generator in aircraft producing power for operation of the aircraft while on the ground and for starting the engines.

A-weighted decibel (dBA): The sound pressure levels in decibels, measured with a frequency weighing network corresponding to the A-scale on a standard sound level meter. A system for measuring sound energy that is designed to represent the response of the human ear to sound. Energy at frequencies more readily detected by the human ear is more heavily weighted in the measurement, while frequencies less well detected are assigned lower weights; they are commonly used in studies where the human response to sound is the object of the analysis.

background: The viewing area of a distance zone that lies beyond the foreground-middleground, usually from a minimum of 3–5 miles to a maximum of about 15 miles from a travel route, use area, or other observer position. Atmospheric conditions in some areas may limit the maximum to about 8 miles or increase it beyond 15 miles. Used as a frame of reference for discussing landscape characteristics or visual effects of human activities.

bankfull: Corresponds to the discharge (typically 1.5 year) at which channel maintenance is most effective; that is, the discharge at which moving sediment, forming or removing bars, forming or changing bends and meanders and generally doing work that results in the shape of the channel.

baseline condition/data: The existing condition, or conditions prior to future development; serves as a foundation for analysis.

best management practice (BMP): A practice or combination of practices determined to be the most effective and practicable (including technological, economic and institutional considerations) means of preventing or reducing the amount of pollution generated by non-point sources to a level compatible with water quality goals. Methods employed during construction and included in the development for ensuring environmental management to the greatest possible extent.

big game: Large species of wildlife which are managed for hunting, such as deer and moose.

biochemical oxygen demand (BOD): The oxygen used in meeting the metabolic needs of aerobic microorganisms in water rich in organic matter.

biodiversity: The variety of life and its processes. It includes the array of living organisms, the genetic differences among them, the communities and ecosystems in which they occur, and the ecological and evolutionary processes that keep them functioning, yet ever changing and adapting.

Biological Assessment (BA): An evaluation conducted for federal projects requiring an environmental impact in accordance with the legal requirements under Section 7(e) of the Endangered Species Act, as amended (16 U.S.C. 1536(c)). The purpose of the assessment is to determine whether the proposed action is likely to affect any endangered, threatened, or proposed species or critical habitat.

Biological Evaluation (BE): A documented review of programs or activities in sufficient detail to determine how an action or proposed action may affect any threatened, endangered, proposed, or sensitive species.

biotic: Pertaining to life and living organisms.

borrow source: A quarry or site that provides fill material such as stone, gravel, or sand for construction.

building restriction zone: An area on airports that encompasses the runway protection zones, the runway visibility zone areas required for airport traffic control tower clear line of sight, and all airport areas with less than 35-foot (10.5-m) clearance under the FAR Part 77 surfaces, where buildings would be unsuitable.

candidate species: Any species included in the Federal Register notice of review that is being considered for listing as threatened or endangered by the U.S. Fish and Wildlife Service.

canopy: The more-or-less continuous cover of branches and foliage formed collectively by the crown of adjacent trees and other woody growth.

capacity: The number of aircraft operations possible at a particular airport. When a continuous demand of activity is assumed, regardless of delay, it is described as ultimate capacity. When a limit on the number of operations is considered, based on an acceptable level of delay, it is described as practical capacity.

capa round: A type of long-range (i.e., traveling a long distance relative to other devices) pyrotechnic round used in wildlife hazard control.

carbon dioxide (CO₂): A non-hydrocarbon, corrosive gas that occurs naturally in the gaseous phase in the natural gas reservoir or that is injected into the reservoir in connection with pressure maintenance, gas cycling, or other secondary or enhanced recovery projects.

carbon monoxide (CO): One of the six criteria pollutants for which the U.S. EPA established National Ambient Air Quality Standards (NAAQS).

Category I Precision Approach: A runway with an instrument approach procedure that provides for approaches to a decision height of not less than 200 feet (60 m) and visibility of not less than one-half mile (800 m), or Runway Visual Range (RVR) 2400.

Category II Precision Approach: A runway with an instrument approach procedure that provides for approaches to a minima less than CAT I to as low as a decision height of not less than 100 feet (30 m) and Runway Visual Range (RVR) of not less than RVR 1200.

Category III Precision Approach: A runway with an instrument approach procedure that provides for approaches to a minima less than CAT II.

channel depth: The depth of a channel measured from the bankfull elevation.

channel gradient: The slope of the stream channel floor with respect to the horizontal, measured in the direction of flow.

channel width: The width of a river or stream channel measured from one bank to the other at the bankfull elevation.

characteristic landscape: The established landscape within an area being viewed. The term is not limited to *natural* character; it may refer to features of the cultural landscape, such as a farming community, an urban landscape, or other landscape that has an identifiable character.

clearing: A forest opening with little or no canopy closure that is either permanent or temporary. Permanent clearings may contain grasses and forbs along with some shrub component. Temporary clearings are forest regeneration and contain seedlings and saplings trees that are less than 10 years old.

climatology: Science of climate and its causes.

climax vegetation: The final vegetation community and highest ecological development of a plant community that emerges after a series of successive vegetation stages. The climax community perpetuates itself indefinitely unless disturbed by outside forces.

climax: The culminating stage in plant succession for a given site where vegetation has reached a highly stable condition.

Code of Federal Regulations (CFR): The official, legal tabulation of regulations directing federal government activities. The compilation of federal regulations adopted by federal agencies through a rule-making process.

colluvial: Consisting of a mixture of soil and angular fragments of rock that have accumulated at the foot and on slopes of mountainsides under the influence of gravity.

colluvium: A mixture of soil and angular fragments of rock that have accumulated at the foot and on slopes of mountainsides under the influence of gravity.

commercial service airport: A public airport that is determined by the Secretary of Transportation to enplane annually 2,500 or more passengers and to receive scheduled passenger service of aircraft.

community (plant community): An assembly of plants living together, reflecting no particular ecological status.

community types (vegetation): A group of plants living in a specific region under relatively similar conditions.

community: A group of interacting plants and animals inhabiting a given area.

commuter aircraft carrier: An air carrier certified in accordance with FAR part 135 or FAR part 121 that operates aircraft with nine seats or less, providing at least five scheduled round trips per week between two or more points, or that carries mail.

competitive forage: Those forage species utilized by two or more animal species.

conglomerate: A sedimentary rock comprising an unstratified mixture or stratified layers of cobbles, gravel, and sand.

coniferous forest: A forest dominated by cone-bearing, usually evergreen, trees.

coniferous: Referring to a cone-bearing, usually evergreen, tree.

constructive use: Refers to the possible indirect impacts to DOT Section 4(f) properties such as parks. Constructive use is considered to occur when a transportation project does not incorporate land from a Section 4(f) resource, but the project's proximity impacts are so severe that the protected activities, features, or attributes that qualify a resource for protection under Section 4(f) are substantially impaired (when the protected activities, features, or attributes of the resource are substantially diminished). For example, a substantial increase in noise levels at a park due to a transportation project may represent a constructive use if it severely impairs activities within the park, even though the park is not directly affected through acquisition or development.

construction emissions: Air pollutants released as a result of construction activities, either as exhaust from vehicles and equipment driven by combustion engines, or from the ground disturbance (and releases of particulate matter and fugitive dust).

contiguous: Lands or legal subdivisions having a common boundary; lands having only a common corner are not contiguous.

contrast: The effect of a striking difference in the form, line, color, or texture of the landscape features within the area being viewed.

cooperating agency: Defined by the Council on Environmental Quality (CEQ) regulations implementing NEPA as any agency that has jurisdiction by law or special expertise for proposals covered by NEPA, and that assists the lead federal agency in developing an environmental analysis or environmental impact statement.

corridor: A route that potentially allows movement of individuals or species from one region to another. A wide strip of land within which a proposed linear facility could be located.

Council on Environmental Quality (CEQ): An advisory council to the President of the United States established by the National Environmental Policy Act of 1969. It reviews federal programs for their effect on the environment, conducts environmental studies, and advises the President on environmental matters.

cover type: Generic term for a mapping unit; typically used to reference individual plant communities or unvegetated habitats such as open water, sand, or mud flats.

criteria pollutants: Air pollutants for which the EPA has established State and National Ambient Air Quality Standards. These include particulate matter (PM_{2.5}, PM₁₀), nitrogen oxides (NO_x), sulfur dioxide (SO₂), carbon monoxide (CO), and volatile organic compounds (VOCs).

critical habitat: Sensitive use areas that are of limited abundance and/or possess unique qualities, thereby constituting irreplaceable, critically necessary habitat.

crucial habitat: Lands on which wildlife or plant species not federally listed as threatened or endangered depend for survival. No alternative suitable habitat is available because of some site limiting factor(s).

cultural resource inventory classes: An inventory system used to identify and assess cultural resource values. Class I: an overview document discussing the known resources of a particular region and defining research goals and questions from known data; primarily a chronicle of past land uses. Class II: professionally conducted, statistically based random samples designed to help characterize the probably density, diversity, and distribution of cultural resources in a large area. Class III: inventories conducted at 30-m intervals or less to provide for intensive coverage over an entire project area, rather than a randomly selected sample area.

cultural resources: The archaeological and historical remains of human occupation or use. Includes any manufactured objects, such as tools or buildings. May also include objects, sites, or geological/geographical locations significant to Native Americans. Nonrenewable elements of the physical and human environment including archeological remains (evidence of prehistoric or historic human activities) and socio-cultural values traditionally held by ethnic groups (sacred places, traditionally utilized raw materials, etc.).

cultural significance: Embodied in those qualities of prehistoric or historic districts, sites, buildings, structures or objects that meet the National Register Criteria for Evaluation (36 CFR 60.4). The application of these criteria is explained in National Register Bulletin 15, distributed by the National Park Service.

cultural site: Any location that includes prehistoric and/or historic evidence of human use, or that has important socio-cultural value.

cumulative effects/impacts: As defined by 40 CFR 1508.7, these are the accumulated impacts on the environment that result from the current action when added to other past, present, and reasonably foreseeable future actions, regardless of which agency or person undertakes other such actions. Cumulative effects can result from individually minor but collectively significant actions taking place over a period of time.

datum (vertical): A datum is a base elevation from which to reckon heights and depths. It is called a tidal datum when defined in terms of a phase of tide. Tidal datums are local datums and should not be extended into areas that have different hydrographic characteristics.

day-night equivalent sound level (DNL or Ldn): A noise measure used to describe the average aircraft noise levels over a 24-hour period, typically an average day over the course of a year. DNL considers aircraft operations that occur between the hours of 10 p.m. and 7 a.m. to be 10 decibels louder than they actually are to account for increased annoyance. DNL may be determined for individual locations or expressed contours. DNL is currently the accepted measure for aircraft noise analysis.

debris: Inert waste material (i.e., not hazardous).

decibel (dB): The unit of measurement of sound pressure or energy. The decibel scale is logarithmic; a 10-decibel increase in sound is equal to a tenfold increase in sound energy. An increase of ten decibels is generally perceived by human ears as a doubling of noise.

deciduous forest: A forest characterized by trees and shrubs that lose their leaves each year during a cold or dry season.

deciduous: Trees or shrubs that lose their leaves each year during a cold or dry season.

de-icing chemical: A chemical used by aircraft operators and airport staff to remove ice from aircraft or airfield surfaces.

delay: The difference, in minutes, between the scheduled time and actual time of an aircraft arrival or departure. For airport planning purposes, it is often expressed as an annual average.

demographic: Pertaining to the study of human population characteristics, including size, growth rates, density, distribution, migration, birth rates, and mortality rates.

departure procedure: A published IFR departure procedure describing specific criteria for climb, routing, and communications for a specific runway at an airport.

departure: The act of an aircraft taking off from an airport.

direct economic impacts: Changes to employment and income in a specific industry due to a change in the money flowing directly to that industry from a specific project.

direct effects: As defined by 40 CFR 1508.9, these are directly caused by the action and occur at the same time and place as the action. Synonymous with "direct impacts."

discharge: The volume of water flowing past a point per unit time, commonly expressed as cubic feet per second (cfs), gallons per minute (gpm), or million gallons per day (mgd).

displaced threshold: A threshold that is located at a point on the runway other than the physical beginning of the runway pavement. Aircraft can begin departure roll before a displaced threshold, but cannot land before it.

Distance Measuring Equipment (DME): A flight instrument that measures the line-of-sight distance of an aircraft from a navigational radio station in nautical miles.

disturbance zone: Area of influence around a disturbance causing a change in animal behavior such as leaving the area, increased stress, abandoning young, not breeding, and/or aberrant behavior.

disturbance: An event that changes the local environment by removing organisms or opening up an area, facilitating colonization by new, often different, organisms.

disturbed area: Area where natural vegetation and soils have been removed or disrupted.

diurnal tidal prism (tidal prism): The water volume exchanged daily between MLLW and MHHW.

diversity: The distribution and abundance of different plant and animal communities and species within the area studied.

downcutting: The downward adjustment of a river, stream or tidal channel floor caused by the erosion of the bed material in the downstream direction.

drainage: Natural channel through which water flows some time of the year. Natural and artificial means for effecting discharge of water as by a system of surface and subsurface passages.

dredge: To dig, gather, or pull out (e.g., of the Float Plane Pond); the equipment used to dig.

duration: The length of time in seconds that a noise event lasts. Duration is usually measured in time above a specific noise threshold.

easement: The legal right of one party to use part of the rights of a piece of real estate belonging to another party. This may include the right of passage over, on, or below the property; certain air rights above the property, including view rights; or the rights to any specified form of development or activity. A right afforded a person or agency to make limited use of another's real property for access or other purposes.

ecological balance: The stability of an ecosystem resulting from interacting processes of its components.

ecological succession: An ecosystem's gradual evolution to a stable state or climax. If through the ability of its populations and elements an ecosystem can absorb changes, it tends to persist and become stable through time.

ecosystem: A dynamic complex of biotic (plant, animal, fungal, and microorganism) communities and their associated abiotic (non-living) environment interacting as a functioning unit. An interacting system of organisms considered together with their environment (e.g., marsh, watershed, and stream ecosystems).

ecotone: The transition zone between two structurally different communities. The boundary or transition zone between adjacent plant communities, often delineating different habitat types (see edge).

edge: The zone where two or more different communities meet and integrate, e.g., field and woodland, or seedling/sapling forest and mature forest.

effects: See impacts.

emission: Air pollution discharge into the atmosphere, usually specified by mass per unit time. In the analysis of air quality, emissions have been subdivided into three types: operating emissions, construction emissions, and fugitive dust emissions.

endangered species: Any species of animal or plant that is in danger of extinction throughout all or significant portions of its range and that has been designated "endangered" in the Federal Register by the Secretary of the Interior. Disturbance of the habitat of endangered species is prohibited by the Endangered Species Act of 1973, as amended.

endemic: Confined naturally to a particular geographic area.

enplanements: The number of passengers boarding an aircraft at an airport. Does not include arriving or through passengers.

environment: The aggregate of physical, biological, economic, and social factors affecting organisms in an area.

environmental analysis: An analysis of alternative actions and their predictable environmental effects, including physical, biological, economic, and social consequences and their interactions; short- and long-term effects; and direct, indirect, and cumulative effects.

environmental assessment (EA): A concise document that assesses the environmental impacts of a proposed federal action. This document discusses the need for, and environmental impacts of, the Proposed Action and alternatives. An environmental assessment should provide sufficient evidence and analysis for a federal determination of whether to prepare an environmental impact statement (EIS) or a Finding of No Significant Impact (FONSI).

environmental gradient: The change in ecological or environmental features across space. Examples include changes in elevation, moisture, temperature, or soil type.

environmental impact statement (EIS): An analysis of alternative actions and their predictable environmental effects, including physical, biological, economic, and social consequences and their interactions; short- and long-term effects; and direct, indirect, and cumulative effects. An EIS is a document that provides a discussion of the significant environmental impacts that would occur as a result of a proposed project and informs decision-makers and the public of the reasonable alternatives that would avoid or minimize adverse

impacts. It is a detailed written statement required by the National Environmental Policy Act when an agency proposes a major federal action significantly affecting the quality of the human environment.

Environmental Justice: Executive Order 12898 (February 11, 1994) mandates federal agencies to identify and address disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority and low-income populations.

ephemeral drainage: A drainage area or a stream that has no base flow. Water flows for a short time each year but only in direct response to rainfall or snowmelt events.

equivalent sound level (LEQ): The average A-weighted sound level over any specified time period.

erosion: Detachment or movement of soil or rock fragments by water, wind, ice, gravity, or human-induced activities.

Essential Fish Habitat (EFH): Those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity. For the JNU EIS, EFH includes all streams, rivers, and estuarine habitats up to the highest high tide level (i.e., wetlands representing open water, low marsh, and high marsh habitats).

estuary: An embayment of the coast in which fresh river water entering at its head mixes with relatively saline ocean water.

feasible: Capable of being done or carried out; can be accomplished with the technology available.

Federal Aviation Administration (FAA): The federal agency responsible for ensuring the safe and efficient use of the nation's airspace, for fostering civil aeronautics and air commerce, and for supporting the requirements of national defense. The activities required to carry out these responsibilities include safety regulations; airspace management and the establishment, operation, and maintenance of a system of air traffic control and navigation facilities; research and development in support of the fostering of a national system of airports; promulgation of standards and specifications for civil airports; administration of federal grants-in-aid for developing public airports; various joint and cooperative activities with the Department of Defense; and technical assistance (under State Department auspices) to other countries.

Federal Aviation Regulation(s) (FAR): The body of federal regulations relating to aviation. Published as Title 14 of the Code of Federal Regulations (CFR), the following FARs have been cited in the Juneau International Airport EIS:

Federal Aviation Regulation (FAR) Part 36: A Federal Aviation Regulation defining maximum noise emissions for aircraft.

Federal Aviation Regulation (FAR) Part 77: A Federal Aviation Regulation describing objects affecting navigable airspace.

Federal Aviation Regulation (FAR) Part 91: A Federal Aviation Regulation governing the phase-out of Stage 1 and 2 aircraft as defined under FAR Part 36.

Federal Aviation Regulation (FAR) Part 121: A Federal Aviation Regulation describing operating requirements for air carriers and operators for compensation and hire.

Federal Aviation Regulation (FAR) Part 135: A Federal Aviation Regulation describing operating requirements for commuter aircraft and on-demand operators for compensation and hire, and for the persons on board such aircraft.

Federal Aviation Regulation (FAR) Part 139: A Federal Aviation Regulation governing the certification and operation of land airports that serve any scheduled or unscheduled passenger operation of an air carrier that is conducted with an aircraft having a seating capacity of more than 30 passengers.

Federal Aviation Regulation (FAR) Part 150: A Federal Aviation Regulation developed to reduce the effects of aircraft noise on local communities in a balanced and cost-effective program.

Federal Aviation Regulation (FAR) Part 152: A Federal Aviation Regulation that specifies the requirements for an airport to receive federal aid for projects.

Federal Aviation Regulation (FAR) Part 157: A Federal Aviation Regulation that provides guidance for airports planning to construct, alter, activate or deactivate a civil or joint use airport, or to alter the status or use of such an airport.

Federal Register: A daily publication that reports presidential and federal agency documents.

fill: The material used in construction of facilities such as RSA or new apron.

fill volume: The amount of material needed to construct the facilities.

final approach: A flight path that follows the extended runway centerline. It usually extends from the base leg to the runway.

Finding of No Significant Impact (FONSI): A decision made by a federal agency that a proposed project is determined not to result in any significant adverse environmental impact.

first-class, home rule: A first-class city that has adopted a home rule charter is called a home rule city; adoption allows the city to revise its ordinances, to the extent that the powers it assumes are those not prohibited by law or charter. A borough and all cities located within it may unite in a single unit of government called a unified municipality.

fisheries: Streams, rivers, and lakes that support resident, migrating, or spawning fish.

fixed base operator (FBO): A business located on the airport that provides services such as hangar space, fuel, flight training, repair, and maintenance to airport users.

fleet mix: The mix or differing aircraft types operated at a particular airport or by an airline.

Flight Management System (FMS): Refers to a computer installed aboard newer aircraft to aid in navigation.

flight plan: Specific information related to the intended flight of an aircraft; the plan is filed with a Flight Service Station or Air Traffic Control facility.

floodplain: The portion of a river valley that is adjacent to the channel, is built of recently deposited sediments, and is covered with water when the river overflows its banks at flood stages.

flow rate: The rate of water transport past a point, typically expressed in cfs.

flow velocity: The mean velocity of water transport past a point.

fluvial: Comprehensive term for river processes.

footprint: The ground area to be disturbed or covered by a new facility or activity.

forage: Vegetation used for food by wildlife, particularly big game wildlife and domestic livestock.

forage fish: Any fish eaten by large, predatory fish, seabirds, or marine mammals. Forage fish are usually abundant and typically swim in large schools.

forb: A broad-leaved flowering plant.

foreground: Area of detailed landscape denoted by specified distance (within 0.00 and 0.25-0.50 miles) from the viewer. Used as a frame of reference for discussing landscape characteristics or visual effects of human activities.

foreground-middleground: The area visible from a travel route, use area, or other observer position, to a distance of 3–5 miles. The outer boundary of this zone is defined as the point where the texture and form of individual plants are no longer apparent in the landscape, and vegetation is apparent only in pattern or outline.

fugitive dust (emissions): Airborne particles emitted from any source other than through a stack, such as the fine soil particles that can become airborne as a result of construction activity.

full-time-equivalent job: The equivalent of one full time job for one year in duration. May be a consolidation of part time or part year jobs, and does not necessarily count the number of people employed.

functional unit: An acreage-based measurement of wetland function that quantifies the total value of one wetland relative to other wetlands in the project area.

Gap analysis: A scientific means for assessing to what extent native animal and plant species are being protected. It can be done at a state, local, regional, or national level.

general aviation: All civil aviation operations other than scheduled air services, nonscheduled air transport operations, and military aircraft.

geographic information systems (GIS): Computerized maps allowing several layers of information to be used simultaneously and analyzed in relation to each other. A computer system capable of storing, analyzing, and displaying data and describing places on the earth's surface.

geomorphology: The science describing landforms and submarine relief features of the earth.

glacial outwash: The material deposited by streams flowing within a glacier and by melt-waters during times of glacial advance and retreat.

glide slope: Provides vertical guidance for aircraft during approach (usually three degrees) and landing. The glide slope consists of electronic components emitting signals that provide vertical guidance by reference to airborne instruments during instrument approaches such as ILS, or visual ground aids, such as VASI, which provide vertical guidance for VFR approach or for the visual portion of an instrument approach and landing.

global positioning system (GPS): A system of 24 satellites used as reference points to enable navigators equipped with GPS receivers to determine their latitude, longitude, and altitude. The accuracy of the system can be further refined by using a ground receiver at a known location to calculate the error in the satellite range data. This is known as differential GPS.

grade: A slope stated in terms of feet per mile or in terms of feet per feet (percent).

grid analysis: A type of aircraft noise analysis that evaluates the noise levels at individual points rather than generate noise contours.

grid point: Used in modeling aircraft noise to identify the noise exposure at a specific location (at a specific grid point).

ground effect: Noise attenuation attributed to absorption or reflection of noise by man-made or natural features on the ground surface.

groundwater: All subsurface water, especially water that is distinct from the surface water portion in the zone of saturation.

habitat diversity: The distribution and abundance of different plant and animal communities and species within a specific area.

habitat modification: Any change in habitat that alters its structure or plant species composition in a way that affects whether a species or group of species will continue to use it.

habitat type: The aggregate of all areas that support or can support the same primary vegetation at climax.

habitat: The place or type of site where a plant or animal naturally or normally lives and grows. Includes all biotic, climatic, and soils conditions, or other environmental influences affecting living conditions. In wildlife management, the major constituents of habitat are considered to be food, water, cover, and living space.

hazing: A means of wildlife hazard management in which individual animals or groups of animals are harassed or frightened away from the airfield through the use of pyrotechnics (e.g., propane canons, cracker shells), taped bird distress calls, or other non-lethal approaches.

headcutting: The downward adjustment of a river, stream or tidal channel floor caused by the erosion of the bed material in the upstream direction.

herbaceous: The plant strata which contain soft, not woody, stemmed plants that die to the ground in winter.

historic landscape: A type of historic district that is a geographic area, or the sites, buildings, structures, natural and cultural features, and objects within a defined geographic area, that together represent a defined historic or prehistoric theme and period. The definition of a historic landscape includes: (1) a significant theme (linkage or continuity) such as a particular economic activity or ethnic group, (2) definitions of those sites, buildings, structures, natural features, cultural landscape modifications, and objects (property types) which represent the theme, and (3) a cultural period or date range.

historic property: A site, building, structure, or object that is listed on or is determined eligible for listing on the National Register of Historic Places due to its importance in local, regional, national, or international history or prehistory.

hub: An airport that serves airlines that have hubbing operations.

hydraulics: The science that describes the movement of water in channels in terms of velocity, volume and other physical properties.

hydrology: The science that describes the properties, distribution, and effects of water on the earth's surface, in the soil and underlying rocks, and in the atmosphere.

hydrophytic (as in hydrophytic plants): Growing wholly or partially in water.

hydrostatic testing: Testing of the integrity of a newly placed but uncovered pipeline for leaks. The pipeline is filled with water, pressurized to operating pressures, and visually inspected.

impacts: A modification of the existing environment caused by an action or alternative actions (such as construction or operation of facilities). Included are direct effects, which are caused by the action and occur at the same time and place, and indirect effects, which are caused by the action and are later in time or further removed in distance but which are still reasonably foreseeable.

IMPLAN (Impact Analysis for PLANning): An econometric model originally developed by the U.S. Forest Service to assist in land and resource management planning. The model calculates how a change in employment or spending in a specific industry in a specific location will change employment, payroll, tax revenues, and other indicators in all other industries and governments within that same location. Changes occur as direct, indirect and induced economic impacts.

impervious surface: A surface (such as the asphalt on a runway or taxiway) that does not allow water to infiltrate through to the ground underneath.

impoundment: The accumulation of any form of water in a reservoir or other storage area.

indicator species: A species of animal or plant dependent on a specific habitat type whose presence is a fairly certain indication of a particular set of environmental conditions. Indicator species serve to show the effects of developmental actions on the environment. The health of an indicator species is used to gauge the function of the habitat on which it depends and, in turn, the health of other dependent species.

indirect economic impacts: Changes in income, employment and tax revenues to all industries and governments within a specific area caused by changes in business spending by industries receiving a direct economic impact from a specific project in that area.

indirect effects: As defined by 40 CFR 1508.8, these are effects that are reasonably foreseen to be caused by the action but occur later in time or are removed in distance from the action. Synonymous with indirect impacts.

induced economic impacts: Changes in income, employment and tax revenues to all industries and governments within a specific area caused by changes in personal spending by households receiving a direct economic impact (payroll) from a specific project in that area.

infiltration: The movement of water or some other liquid into the soil or rock through pores or other openings.

infrastructure: The basic framework or underlying foundation of a community, including road networks, electric and gas distribution, water and sanitation services, and facilities.

Instrument Flight Rule (IFR): Flight procedures used during weather conditions when visibility is less than three miles and/or the cloud ceiling is less than 1,000 feet above the ground (from FAR Part 91).

Instrument Landing System (ILS): An electronic system installed at some airports which helps to guide pilots to runways on landing during periods of limited visibility or adverse weather. A pilot must have proper training and his aircraft must be properly equipped to use an ILS. A precision instrument approach system normally consists of a localizer, glide slope, outer marker, middle marker, and approach lights.

Integrated Noise Model (INM): A computer model developed and maintained by the FAA to predict the noise impacts generated by aircraft operations.

intermittent stream: A stream that flows only at certain times of the year, when it receives water from alluvial ground water, springs, or some surface source such as melting snow in mountainous areas.

irretrievable: Applies to the loss of production, harvest, or use of natural resources. For example, some or all of the timber production from an area is lost irretrievably while an area is serving as a winter sports site. The production lost is irretrievable, but the action is not irreversible. If the use changes, it is possible to resume timber production.

irreversible: Applies primarily to the use of nonrenewable resources, such as minerals or cultural resources or to those factors that are renewable only over long time spans, such as soil productivity and aspen regeneration. Irreversible also includes loss of future options.

isostatic rebound: An upward change in elevation of earth surface associated with the removal of heavy weight, such as the retreat of glacial ice.

key observation point (KOP): A critical viewpoint, usually along commonly traveled routes or at other likely observation points.

knots: Airspeed measured as the distance in nautical miles (6,076.1 feet) covered in one hour (approximately 1.15 miles per hour).

land use compatibility: The ability of land uses surrounding the airport to coexist with airport-related activities with minimum conflict.

land use plan: A set of decisions that establish management direction for land within an administrative area; an assimilation of land-use-plan-level decisions developed through the planning process, regardless of the scale at which the decisions were developed.

land use (designation): Land uses determined for a given area that establish the types of activities allowed (e.g., mining, agriculture, timber production, residential, industrial).

landform: Any physical, recognizable form or feature of the earth's surface, having a characteristic shape and produced by natural causes. Includes major features such as plains, plateaus, and mountains, and minor features, such as hills, valleys, slopes, canyons, arroyos, and alluvial fans.

landscape area: In general, comprises a miles-wide mosaic over which particular local ecosystems and land uses recur. For the purposes of this EIS, the landscape area was essentially defined by the estuarine ecosystem surrounding the Airport and includes the Airport, the adjacent Miller-Honsinger property, and the Mendenhall Wetlands State Game Refuge. Impacts to biological resources including vegetation, wetlands, fisheries, and wildlife are evaluated at both the project and landscape scales in order to provide a context for better understanding the absolute and relative impacts of the proposed actions and their alternatives.

landscape character: For visual resources analysis, the arrangement of a particular landscape as formed by the variety and intensity of the landscape features as defined as the four basic elements (form, line, color, and texture). These factors give the area a distinctive quality that distinguishes it from its immediate surroundings.

Ldn: Used in place of DNL in mathematical equations only. See also DNL.

lead (Pb): One of the six criteria pollutants for which the U.S. EPA-established National Ambient Air Quality Standards (NAAQS).

LEQ (Equivalent Sound Level): The steady A-weighted sound level over any specified period of time (not necessarily 24 hours) that has the same acoustic energy as the fluctuating noise during that period (with no consideration of nighttime weighting). It is a measure of cumulative acoustical energy. Because the time interval may vary, it should be specified by a subscript (such as LEQ 8 for an 8-hour exposure to noise) or be clearly understood from the context.

loam: A mixture of sand, silt, and clay containing 7–27% clay, 28–50% silt, and less than 50% sand.

localizer directional aid: A navigation aid used for instrument approaches that operates similarly to and provides the same accuracy as an ILS localizer.

long-term impacts: For the purpose of this EIS analysis, long-term effects generally last beyond the construction period.

loudness: The subjective intensity of sound.

macroinvertebrates: Aquatic invertebrate animals that live on or in the surface of the substrate of streams or lakes.

marshplain: The land surface that is regularly inundated by tides.

Maximum Level (L_{max}): The highest sound level recorded during an event or over a given period of time.

mean sea level (msl): A tidal datum based on the arithmetic mean of hourly heights observed over the National Tidal Datum Epoch at a given location.

median: A value in an ordered set of values above and below which there are an equal number of other values.

medium-intensity approach lighting system with runway alignment indicator lights (MALSR): High intensity lights located along the approach path at the end of an instrument runway. Approach lights aid a pilot during transition from instrument flight conditions to visual conditions at the end of an instrument approach.

merge: Combining noise events that exceed a given threshold level and occur within a selected period of time.

microsiemens per centimeter (uS): A unit of measurement of the ability of water to conduct electrical current, or the concentration of ions.

middleground: Area of landscape denoted by specified distance (from 0.25–0.50 to 3–5 miles) from the viewer. Used as a frame of reference for discussing landscape characteristics or visual effects of human activities.

minimize: To reduce the adverse impact of an operation or development to the lowest practical level.

mitigate: To lessen the severity of.

mitigation measure: An action taken to avoid or alleviate negative impacts. Methods or procedures that reduce or lessen the impacts of an action.

mitigation: Actions to avoid, minimize, reduce, eliminate, or rectify the impact of an action or management practice.

monitor: To systematically and repeatedly watch, observe, or measure environmental conditions in order to track changes.

municipal water supply: Water procured and managed by a municipality for public, commercial, and industrial uses. It may come from either groundwater or surface water sources. Once water has entered a municipal water system, from whatever source, it is considered the municipal water supply.

National Airspace System: The common network of U.S. airspace—air navigation facilities, equipment, services, airports, or landing areas; aeronautical charts, information, and services; rules, regulations, and procedures; technical information, manpower, and materials; all of which are used in aerial navigation.

National Ambient Air Quality Standards (NAAQS): The allowable concentrations of air pollutants in the air specified by the federal government. The air quality standards are divided into primary standards (based on the air quality criteria and allowing an adequate margin of safety and requisite to protect the public health) and secondary standards (based on the air quality criteria and allowing an adequate margin of safety and requisite to protect the public welfare from any unknown or expected adverse effects of air pollutants).

National Environmental Policy Act of 1969 (NEPA): The original legislation establishing the environmental review process for proposed federal actions. An act that encourages productive and enjoyable harmony between humans and the environment and promotes efforts to prevent or eliminate damage to the environment and biosphere and stimulate human health and welfare; enriches the understanding of the ecological systems and natural resources important to the nation, and establishes the Council on Environmental Quality. It is the national charter for protection of the environment. NEPA establishes policy, sets goals, and provides means for carrying out the policy. Regulations at 40 CFR 1500-1508 implement the act.

National Register of Historic Places (NRHP): A list, maintained by the National Park Service, of areas that have been designated as being of historical significance.

native species: Plants that originated in the area in which they are found, i.e., they naturally occur in that area.

nautical mile: A measure of distance equal to one minute of arc on the earth's surface (6,076.1 feet or 1,852 m).

navigational aid: Any visual or electronic device airborne or on the surface that provides point-to-point guidance information or position data to aircraft in flight.

neotropical migratory birds: Birds that travel to Central America, South America, the Caribbean, and Mexico during the fall to spend the winter and then return to the United States and Canada during the spring to breed. These birds include almost half of the bird species that breed in the United States and Canada.

nesting substrate: The site on which a nest is placed, such as a tree, cliff, or ground.

nitrogen dioxide (NO₂): One of the six criteria pollutants for which the U.S. EPA established National Ambient Air Quality Standards (NAAQS).

noise abatement: A measure or action that minimizes the impact of noise on the environs of an airport. Noise abatement measures include aircraft operating procedures and use or disuse of certain runways or flight tracks.

noise contour: Average annual noise levels summarized by lines connecting points of equal noise exposure. Sometimes called noise exposure contour.

noise exposure map: A map of an airport and its environs that identifies the area impacted by various aircraft noise levels. The FAA has specified criteria for presentation of Part 150 Noise Exposure Maps.

noise-sensitive area: A location where the use of the land may be incompatible with the noise received from aircraft sources.

Noise Level Reduction (NLR): The amount of noise level reduction achieved through incorporation of noise attenuation (soundproofing) in the design and construction of a structure.

noise: Unwanted sound. Whether a sound is considered noise is based on human perception.

non-directional beacon: A beacon transmitting non-directional signals, whereby the pilot of an aircraft equipped with direction finding equipment can determine his bearing to and from the station. When the radio beacon is installed in conjunction with the ILS marker, it is normally called a compass locator.

non-precision approach procedure: A standard instrument approach procedure providing runway alignment but no glide slope or descent information.

noxious weed: An alien, introduced, or exotic undesirable species that is aggressive and overly-competitive with more desirable native species. A plant species designated by federal or state law as generally possessing one or more of the following characteristics: aggressive and difficult to manage; parasitic; a carrier or host of serious insects or disease; or nonnative, new, or not common to the United States. Also called invasive species.

Object Free Area (OFA): An area on the ground centered on a runway, taxiway, or taxilane centerline provided to enhance the safety of aircraft operations by having the area free of objects, except for objects that need to be located in the OFA for air navigation or aircraft ground maneuvering purposes.

operation: A takeoff or landing by an aircraft.

operation emissions: Air pollutant emissions from the operation of airport sources (aircraft, ground support equipment, automobiles/trucks, etc). Used to differentiate the day-to-day emissions from airport sources from emissions associated with vehicles used to build a project.

overflight: Aircraft whose flights originate or terminate outside the area that transit the airspace without landing.

ozone: A molecule containing three oxygen atoms (O_3) produced naturally in the upper atmosphere or by passage of an electrical spark through air or oxygen (O_2). One of the six criteria pollutants for which the U.S. EPA established National Ambient Air Quality Standards (NAAQS).

particulate matter (PM): A particle of soil or liquid matter (e.g., soot, dust, aerosols, fumes and mist). One of the criteria pollutants for which the U.S. EPA established National Ambient Air Quality Standards (NAAQS). Particulate matter is defined as two categories, fine particulates, with an aerodynamic diameter of 10 micrometers or less (PM_{10}), and fine particulates with an aerodynamic diameter of 2.5 micrometers or less ($PM_{2.5}$).

passerine: A taxonomic order that includes perching birds and songbirds.

passive relocation: A channel relocation process that allows river and/or tidal processes to define the location and size of a channel that had been displaced by human alterations to the landscape.

peak flow: The greatest flow attained during melting of winter snowpack or during a large precipitation event.

perennial stream: A stream or reach of a stream that flows throughout the year.

perennial: A plant whose life cycle lasts longer than two years. The tops of herbaceous perennials die down at the end of the growing season; buds, roots, and underground portions persist.

permeability: The capacity of a soil or groundwater aquifer to transmit water.

permeable: The property or capacity of a porous rock, sediment, or soil to transmit a liquid.

pH: The negative \log_{10} of the hydrogen ion activity in solution; a measure of acidity or basicity of a solution.

physiographic: Pertaining to the genesis and evolution of landforms.

plant community: An ecologically integrated association of plant species inhabiting a given area.

pollutant load: The amount of contaminant or undesirable material carried in a stream, groundwater, or discharge from a source.

pool: A location in an active stream channel, usually on the outside bends of meanders, where the water is deepest and has reduced current velocities.

population: Within a species, a distinct group of individuals that tend to mate only with members of the group. Because of generations of inbreeding, members of a population tend to have similar genetic characteristics.

potable (water): Suitable for drinking.

precision approach procedure: A standard instrument approach procedure in which an electronic glideslope/glidepath is provided.

Precision Approach Path Indicator: A visual lighting aid placed on the side of the runway that helps the pilot on approach/landing maintain the correct approach slope (on the vertical axis) to the runway. They are intended for day or night use during good (i.e., VFR) weather conditions.

Prevention of Significant Deterioration (PSD): A regulatory program under the Clean Air Act (P.L. 84-159, as amended) to limit air quality degradation in areas currently achieving the National Ambient Air Quality Standards. The PSD program established air quality classes in which differing amounts of additional air pollution is allowed above a legally defined baseline level. Almost any additional air pollution would be considered significant in PSD Class I areas (certain large National Parks and Wilderness Areas in existence on August 7, 1977). PSD Class II areas allow that deterioration associated with moderate, well-controlled growth (most of the country). Although Class III areas would generally allow planned individual growth, no Class III areas have been established.

prey base: Populations and types of prey species available to predators.

primary commercial service airport: An airport providing commercial passenger services that enplane more than 10,000 passengers annually. Depending upon enplanement levels, primary commercial service airports are sub-divided into one of four categories, which include Large-Hub Primary, Medium-Hub Primary, Small-Hub Primary, and Non-hub Primary.

productivity: In reference to vegetation, the measure of live and dead accumulated plant materials.

profile: The position of the aircraft during an approach or departure in terms of altitude above the runway and distance from the runway end.

propagule: Seeds or vegetative plant parts (e.g., roots, shoots, buds) which are easily transported and capable of growing into a mature plant, thus allowing a plant species to spread to and colonize an area in which it did not previously occur.

public-use instrument approach: A series of predetermined maneuvers for the orderly transfer of an aircraft under instrument flight conditions from the beginning of the initial approach to a landing, or to a point from which a landing may be made visually.

pyrotechnics: Explosive devices used to haze wildlife.

quarry: An open or surface working, usually for the extraction of stone, slate, limestone, etc.

raptor: A bird of prey with sharp talons and strongly curved beaks that preys on living animals (e.g., eagles, hawks, falcons, and owls).

rearing habitat: The river or stream areas where juvenile salmonids must find food and shelter to survive for a period of time.

recharge: Replenishment of the water supply in an aquifer through the outcrop or along fracture lines.

reclamation: The process of restoring disturbed areas using any of several methods: recontouring, spreading topsoil or growth medium, seeding, and planting, among others.

recontouring: Restoration of the natural topographic contours by reclamation measures, particularly in reference to roads.

Record of Decision (ROD): A decision document for an environmental impact statement or supplemental EIS that publicly and officially discloses the responsible official's decision regarding the actions proposed in the environmental impact statement and their implementation.

resident fish: Fish residing in the same general area year-round (as opposed to migratory or anadromous fish).

residuum: Unconsolidated material that accumulates by weathering of parent material in place.

riffle: A shallow rapids, usually located at the cross-over in a meander of the active channel.

right-of-way: A permit or an easement that authorizes the use of public lands for certain specified purposes, commonly for pipelines, roads, telephone lines, electric lines, reservoirs, etc.; also, the lands covered by such an easement or permit. An accurately located strip of land with defined width, point of beginning, and point of ending. It is the area within which the user has authority to conduct operations approved or granted by the landowner in an authorizing document, such as a permit, easement, lease, license, or Memorandum of Understanding.

riparian area: A form of wetland transition between permanently saturated wetlands and upland areas. Riparian areas exhibit vegetation or physical characteristics that reflect the influence of permanent surface or subsurface water. Typical riparian areas include lands

along, adjacent to, or contiguous with perennially and intermittently flowing rivers and streams, glacial potholes, and the shores of lakes and reservoirs with stable water levels. Excluded are ephemeral streams or washes that lack vegetation and depend on free water in the soil.

riparian ecosystem: A transition between the aquatic ecosystem and adjacent upland terrestrial ecosystem; identified by soil characteristics and distinctive vegetation communities that require free or unbounded water.

riparian zone: The zone along streams and rivers that receives additional moisture and supports hydrophytic vegetation.

riparian: Land areas that are directly influenced by water. They usually have visible vegetative or physical characteristics showing this water influence. Streambanks, lake borders, or marshes are typical riparian areas.

riverine: A system of wetlands that includes all wetland and deep-water habitats contained within a channel that lacks trees, shrubs, persistent emergents, and emergent mosses or lichens.

rookery: A group of nests of colonial-nesting birds such as northwestern crows. In a rookery, several nests may occur in a single tree or close group of trees.

roosting: To rest or sleep in a roost. A bird will typically use the same roost over an extended period of time.

runoff: That part of precipitation that appears in surface streams. Precipitation that is not retained on the site where it falls and is not absorbed by the soil.

runoff volume: A measure of runoff, usually expressed in cfs or acre-feet.

runway end identifier lights (REIL): Two synchronized flashing lights, one on each side of the runway threshold, that identify the approach end of the runway.

runway protection zone (RPZ): An area, trapezoidal in shape and centered about the extended runway centerline, designated to enhance the safety of aircraft operations. It begins 200 feet (60 m) beyond the end of the area usable for takeoff or landing. The RPZ dimensions are functions of the aircraft, type of operation, and visibility minimums (formerly known as the clear zone).

runway safety area (RSA): A defined surface surrounding the runway prepared or suitable for reducing the risk of damage to airplanes in the event of an undershoot, overshoot, or excursion from the runway.

runway threshold: The beginning of that portion of the runway usable for landing.

runway: A defined rectangular area on an airport prepared for the landing and takeoff run of aircraft along its length. Runways are normally identified by numbers in relation to their magnetic direction rounded off to the nearest 10 degrees, e.g., Runway 19, Runway 11.

Runway Visual Range (RVR): The range over which the pilot of an aircraft on the centerline of a runway can see the runway surface markings or the lights delineating the runway or identifying its center line. RVR may be determined by an observer located at the end of the runway or facing in the direction of landing, or by means of a transmissometer installed near the end of the runway.

salmonid: Any fish belonging to the salmon family.

salmonid spawning areas: Waters that provide or could provide a habitat for active, self-propagating populations of salmonid fishes.

Salmonidae: The family of fish that includes salmon and trout.

saltwater fish: Species of fish that are confined to saltwater for all of their lifecycle.

scoping: Procedures by which agencies determine the extent of analysis necessary for a proposed action (i.e., the range of actions, alternatives, and impacts to be addressed; identification of significant issues related to a proposed action; and the depth of environmental analysis, data, and task assignments needed). The process of identifying the range of issues, management concerns, preliminary alternatives, and other components of an environmental impact statement or land-use planning document. It involves both interagency and public viewpoints.

Section 106 of the National Historic Preservation Act (Section 106): Governs the identification, evaluation, and protection of historical and archeological resources affected by state and federal transportation projects. Principal areas identified include required evaluations to determine the presence or absence of site, the eligibility based on National Register of Historic Places criteria, and the significance and effect of a proposed project upon such a site. Compliance with Section 106 requires that any project funded, licensed, permitted, or assisted by the federal government be reviewed for impacts to significant historic properties and that the State Historic Preservation Officer and the Advisory Council on Historic Preservation be allowed to comment on the project.

Section 401 of the Clean Water Act (Section 401): The State Water Quality Certification program requires that states certify compliance of federal permits or licenses with state water quality requirements and other applicable state laws. Under Section 401, states have authority to review any federal permit or license that may result in a discharge to wetlands and other waters under state jurisdiction, to ensure that the actions would be consistent with the state's water quality requirements.

Section 404 of the Clean Water Act (Section 404): Authorizes the U.S. Army Corps of Engineers to issue permits regulating the discharge of dredged or fill material into the waters of the United States, including wetlands.

Section 7 consultation: The requirement of Section 7 of the Endangered Species Act that all federal agencies consult with the U.S. Fish and Wildlife Service or the National Marine Fisheries Service if a proposed action might affect a federally listed species or its critical habitat.

sedges: Plants that resemble grasses but have hollow rather than woody stems.

sediment load: The amount of sediment (sand, silt, and fine particles) carried by a stream or river.

sediment: Soil or rock particles that have been transported to stream channels or other bodies of water. Sediment input comes from natural sources, such as soil erosion, rock weathering, agricultural practices, or construction activities.

sedimentary: Rock formed from fragments of pre-existing rocks (e.g., sandstone) or by precipitation from solution (e.g., limestone).

sedimentation: Process whereby eroded soils are deposited in streams, rivers, lakes. It is accelerated by any activity that disturbs the land surface or removes vegetation (e.g., road construction, agriculture/forestry, urban development); sediment source areas include upland sites, intermediate slopes, riparian zones, streambanks, and channel scour areas.

seedling: Newly germinated plant.

seismic: Pertaining to or produced by earthquakes.

sensitive species: Those species of plants or animals that have appeared in the Federal Register as proposed for classification and are under consideration for official listing as endangered or threatened species under the Endangered Species Act, or species that are on an official state list or are recognized by a state or federal land management agency as needing special management to prevent their being placed on state or federal threatened or endangered species lists.

short-term impacts: For the purpose of this EIS analysis, generally defined as those impacts that would occur during the construction period.

significant: As used in NEPA, determination of significance requires consideration of both context and intensity. Context means that the significance of an action must be analyzed in several contexts, such as society as a whole, and the affected region, interests, and locality. Intensity refers to the severity of impacts (40 CFR 1508.27). An effect that is analyzed in the context of the proposed action to determine the degree or magnitude of

importance of the effect, wither beneficial or adverse. The degree of significance can be related to other actions with individually insignificant but cumulatively significant impacts.

single event: One noise event. For many kinds of analysis, the sound from single events is expressed using the Sound Exposure Level (SEL) metric.

soil: Loose, unconsolidated surface material comprising topsoil and subsoil.

solid waste: Inert, non-toxic refuse derived primarily from facility construction.

sound exposure level (SEL): A standardized measure of a single sound event, expressed in A-weighted decibels, that takes into account all sound above a specified threshold set at least 10 decibels below the maximum level. All sound energy in the event is integrated over one second.

sound: Sound is the result of a sound source vibration in the air. The vibration produces alternating bands of relatively dense and sparse particles of air, spreading outward from the source in the same way as ripples do on water after a stone is thrown into it. The result of the movement is a fluctuation in the normal atmospheric pressure or sound waves.

spawning: The deposition of eggs and sperm by fish.

special-use instrument approach: A series of predetermined maneuvers for the orderly transfer of an aircraft under instrument flight conditions from the beginning of the initial approach to a landing, or to a point from which a landing may be made visually.

species diversity: The number, different kinds of, and relative abundances of species present in a given area.

Species of Special Concern: A native species whose population is low and limited in distribution or which has suffered significant reductions because of habitat loss.

species: Organisms that successfully reproduce among themselves and cannot reproduce successfully with other organisms.

Stage 1 Aircraft: Aircraft meeting the International Civil Aviation Organization (ICAO) Chapter 1 standards, which were phased out of operation by Congress in 1985.

Stage 2 Aircraft: Aircraft that meet the noise levels prescribed by FAR Part 36 which is less stringent than those established for the quieter Stage 3 designation. The Airport Noise and Capacity Act required the phase-out of all Stage 2 aircraft over 75,000 pounds by December 31, 1999, with the potential for case-by-case exceptions through the year 2003.

Stage 3 Aircraft: Aircraft that meet the most stringent noise levels set in FAR Part 36.

standard departure procedure: A planned IFR air traffic control departure procedure published for pilot use in graphic and textual form. They provide transition from the terminal to the en route air traffic control structure.

stationary source: Refers to a stationary source of emissions. PSD permits are required for major new stationary sources of emissions that emit 100 tons or more per year of CO, SO₂, NO₂, O₃, or particulate matter.

statute mile: A measure of distance equal to 5,280 feet.

stormwater runoff (discharge): Overland runoff from snowmelt or a precipitation event.

strata: An identifiable layer of bedrock or sediment; does not imply a particular thickness of rock.

study area: The geographic area that was analyzed to predict the possible effect that may be associated with proposed alternatives. This area varied in scale depending on the discipline being discussed, or the relationship being described.

substrate: Material consisting of silts, sands, gravels, boulder and woody debris found on the bottom of a stream channel.

sulfur dioxide (SO₂): One of the six criteria pollutants for which the U.S. EPA established National Ambient Air Quality Standards (NAAQS).

sustainability: The ability of an ecosystem to maintain ecological processes and functions, biological diversity, and productivity over time.

Tactical Air Navigation (TACAN): A navigational system used by the military. TACAN provides both azimuth and distance information to a receiver on board an aircraft.

take: As defined by the Endangered Species Act, "to harass, harm, pursue, hunt, shoot, wound, kill, capture, or collect, or attempt to engage in any such conduct."

taxiway: A defined path established for the taxiing of aircraft from one part of an airport to another.

Terminal Area Forecast (TAF): The Terminal Area Forecast (TAF) contains historical and forecast data for enplanements, airport operations and instrument operations. The data covers the 315 FAA towered airports, 128 Federal contract tower airports, 175 radar approach control facilities, and 2,962 non-towered FAA airports. Data in the TAF is presented on a U.S. government fiscal year basis (October through September). The TAF is prepared to assist the FAA in meeting its planning, budget, and staffing requirements. In addition, many state aviation authorities and other aviation planners use the TAF as a basis for planning future airport improvements.

terminal area: A general term used to describe airspace in which approach control service or airport traffic control service is provided.

threatened species: Any species of plant or animal that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range and that has been designated in the Federal Register by the Secretary of Interior as a threatened species. Disturbance of the habitat of threatened species is prohibited by the Endangered Species Act of 1973, as amended.

threshold: The beginning of that portion of the runway available for landing. Aircraft departures normally begin at the threshold, but in some instances the landing threshold may be displaced with pavement behind that is available for takeoffs in either direction and landings from the opposite direction.

tidal prism: The volume of water exchanged on a daily tidal cycle between mean higher high water (MHHW) and mean lower low water (MLLW) elevations. This has been equated to bankfull discharge in rivers—the channel forming flow.

tidal slough: A channel in an estuary environment that is formed by tidal processes.

time above (TA): The amount of time that sound exceeds a given decibel level during a 24-hour period (e.g., time in minutes that the sound level is above 75 dBA).

Time Above Threshold Sound Level: The time in minutes at a specific location that a preselected sound level is exceeded (e.g., time in minutes that the sound level is above 75 dBA).

time-in-mode: The time that an average aircraft operates during each of four modes: takeoff, climbout, approach, and taxi/idle.

tons per year: a unit expressing the amount of material released in a given year, typically used for air emissions of particulates or fugitive dust.

total dissolved solids (TDS): Total amount of dissolved material, organic or inorganic, contained in a sample of water.

total suspended solids (TSS): Amount of undissolved particles suspended in liquid.

traffic pattern: The traffic flow for aircraft landing and departure at an airport. Typical components of the traffic pattern include upwind leg, crosswind leg, downwind leg, base leg, and final approach.

transmissivity: The rate at which water is transmitted through a unit width of a groundwater aquifer or confining bed under a unit hydraulic gradient.

Tribe: Any Native American group in the conterminous United States that the Secretary of the Interior recognizes as possessing tribal status.

turbidity: A fisheries measurement of the total suspended solids in water, expressed as nephelometric turbidity units (NTU).

understory: The trees and other woody species growing under a more-or-less continuous cover of branches and foliage formed collectively by the upper portion of adjacent trees and other woody growth.

urea: A nitrogenous compound that is the chief solid component of mammalian urine and can be synthesized from carbon dioxide and ammonia. Used as an anti-icing compound on JNU runways.

USGS hydrologic unit: Geographic area representing part or all of a surface drainage basin or distinct hydrologic feature.

vector: Compass heading instructions issued by ATC in providing navigational guidance by radar.

vegetation type: A plant community with distinguishable characteristics described by the dominant vegetation present. See also cover type.

vegetation: All of the plants growing in and characterizing a specific area or region; the combination of different plant communities found there.

velocity: A speed of linear motion in a given direction.

Very High Frequency Omnidirectional Range (VOR) Station: A ground-based radio navigation aid transmitting signals in all directions. A VOR provides azimuth guidance to pilots by reception of electronic signals.

Very High Frequency Omnidirectional Range Station with Tactical Air Navigation (VORTAC): A navigational aid providing VOR azimuth and TACAN distance measuring equipment (DME) at one site.

viewshed: The panorama from a given viewpoint that encompasses the visual landscape, including everything visible within a 360° radius.

Visual Absorption Capability (VAC): The ability of a landscape to absorb human alterations without loss of landscape character and without reduction in scenic quality. The major inventory factors used to determine VAC are slope, vegetative cover, and soils and geology.

Visual Approach Slope Indicator (VASI): A visual aid to final approach to the runway threshold, consisting of two wing bars of lights on either side of the runway. Each bar produces a split beam of light: the upper segment is white, the lower is red.

visual approach: An approach conducted under an instrument flight rule (IFR) flight plan that authorizes the pilot to proceed visually and clear of clouds to the airport. The reported weather at the airport must be a ceiling at or above 1,000 feet and visibility of 3 miles or greater.

Visual Flight Rule (VFR): Rules governing procedures for conducting flight under visual meteorological conditions, or weather conditions with a ceiling of 1,000 feet above ground level and visibility of three miles or greater. It is the pilot's responsibility to maintain visual separation, not the air traffic controller's, under VFR.

Visual Management System (VMS): Provides a method for setting measurable objectives for the management of the visual resource. It provides standards for inventorying the visual resource and documenting changes in the landscape.

Visual Quality Objective (VQO): A desired level of excellence in visual appeal based on physical and sociological characteristics of an area. Refers to the degree of acceptable alteration to the characteristic landscape.

visual resource: The composite of basic terrain, geologic features, water features, vegetation patterns, and land use effects that typify a land unit and influence the visual appeal the unit may have for viewers. The visible physical features of a landscape (topography, water, vegetation, animals, structures, and other features) that constitute the scenery of an area.

volatile organic compounds (VOCs): A group of organic (carbon-based) chemicals that are readily converted to gaseous form at relatively low temperatures. While VOCs are not a criteria air pollutant (NAAQS), they are a precursor to ozone.

water quality (parameters): A set of chemical, physical, or biological characteristics that describe the condition of a river, stream, or lake. The quality of water determines which beneficial uses it can support. Different instream conditions or levels of water quality are needed to support different beneficial uses.

water table: The level of the groundwater, or the level below which the rocks are saturated with water. During dry weather the water table will sink, and during wet weather it will rise nearer to the surface.

Waters of the U.S.: A jurisdictional term from Section 404 of the Clean Water Act referring to water bodies such as lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds—the use, degradation, or destruction of which could affect interstate or foreign commerce.

watershed: All lands enclosed by a continuous hydrologic drainage that divide and lay upslope from a specified point on a stream. All of the land that drains surface water to a given stream above a designated point (usually its mouth); also called a stream drainage or drainage basin.

wetlands: Areas that are inundated by surface or groundwater with a frequency sufficient to support (and under normal circumstances, do support or would support) a prevalence of vegetation or aquatic life that requires saturated or seasonally saturated soil conditions for growth and reproduction.

wetland area: The alphanumeric designation for a single wetland type (see definition below) located within one of the seven wetland analysis areas located in the project area (e.g., the Northwest Development Area has wetlands labeled NW1, NW2, etc.).

wetland function: Includes groundwater discharge, lateral flow, sediment/toxicant retention, nutrient transformation and export, riparian support, fish habitat, wildlife habitat, and regional ecological diversity.

wetland type: The classification of project area wetlands, based on the Cowardin wetland classification system, which places wetlands in one of four wetland systems: lacustrine, riverine, palustrine, or estuarine. These systems are further subdivided into subsystems, classes, and subclasses (e.g., for PEM1 wetlands: system = palustrine [P]; class = emergent [EM]; subclass = persistent vegetation structure [1]).

wetland value: A relative indicator based on groundwater recharge, surface hydrologic control, and downslope beneficiary sites.

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