

# SAR - DEIS - Chapter 3 - Biological - Wildlife

## Comment # Comment

0029063-036 Brown Bears Telemetry studies by the IBBST have demonstrated that some brown bears using the Kenai NWR routinely utilize the CNF north of the Kenai River for combined feeding and denning purposes. Of special importance is the Russian River drainage, where brown bears feed on spawning sockeye salmon both on the CNF and Kenai NWR sides of the Russian River valley. The proposed management of forest cover for brown bears of approximately 750 feet from both sides of anadromous streams (pages 2-12 and 2-13 in CNF - Proposed Revised Forest Plan) appears to be inadequate to provide cover for brown bears, based on recent findings of the IBBST which suggest that the average distance of brown bears from streams was approximately 1.2 miles. We recommend that the width of the proposed forest cover corridor for brown bears be expanded beyond the current 750 feet. A) e ~ ee ~ to e7tl-;v~ ~.e vqt-c~alG, f~ (l~ 7~0 ~~~o~ ~f~ v Wolves In the Final EIS, we suggest the section on the gray wolf (p. 3- 195 and 3- 196) acknowledge and report implications of the research, monitoring, and findings on wolves on the Kenai Peninsula from 1976 to the present. The Final EIS needs to acknowledge that the original Kenai Peninsula wolf populations were extirpated by human activities in the early 1900s; that human harvest had once regulated (1976-1981), and continues to have the potential to regulate, the numbers of wolves on the Kenai Peninsula; that wolves on the Kenai Peninsula have been exposed to and are susceptible to diseases and parasites from domestic dogs; that the estimated densities of wolves in the CNF (8 wolves/1000 km<sup>2</sup> or 8 wolves/386 mi<sup>2</sup>) is much lower than on the western lowlands (16 wolves/1000 km<sup>2</sup> or 16 wolves/386 mi<sup>2</sup>) of the Kenai Peninsula; and that the estimated wolf population on the CNF on the Kenai Peninsula in Game Management Unit (GMU) 7 was estimated at only 53 wolves (Peterson et al. 1984)~

The implications for managing for wolves on the CNF are that: 1) there are relatively few wolves on the Kenai Peninsula portion of the CNF; 2) the density of wolves on the Kenai Peninsula portion of the CNF is low, perhaps 50% lower, relative to wolf densities on the western side of the Kenai Peninsula; 3) human activities have been demonstrated to have the capability to limit wolf numbers on the Kenai Peninsula through trapping and hunting; 4) most wolf movements and habitat use on the CNF are probably confined to valley bottoms and slopes in the winter where moose are overwintering and that this makes wolves within the CNF even more susceptible to harvest because of the high degree of human access into valleys via trails, maintained roads and highway, logging roads, etc.; and 5) wolves within the CNF are probably more susceptible to other forms of human disturbance and activities (diseases/parasites of domestic dogs, road kills, illegal shooting, etc.) in the Kenai Peninsula portion of the CNF because of their movement and habitat use in valleys where human activities are the highest.

The CNF boundary overlaps the territories of at least three wolf packs (see attached map). The Big Indian Creek Pack is the wolf pack that would probably be most affected by any land management change other than Designated Wilderness, or high protection status, since they use the Big and Little Indian Creek drainages, and much of the northern portion of the Kenai mountains (Kenai NWR unpublished data). Evidence from radiotelemetry data show previous use of the area bordering the northeastern boundary of the Kenai NWR and western boundary of the CNF by the Skilak and Mountain wolf packs (Jozwiak 1997, appendices attached). Studies have shown that wolves need large tracts of undisturbed roadless habitat to find prey and sustain a viable population. An increase in road density is believed responsible for the demise of wolves in Wisconsin where wolves failed to survive when road densities exceeded 0.93 mile/mi<sup>2</sup> (Theil 1955). Other studies (Jensen et al. 1986, Mech et al. 1988) generally agreed that wolf packs did not persist where road density exceeded approximately 0.6 km km<sup>2</sup> (Thurber et al. 1994). Although wolves are capable of crossing Refuge roads that are intensively used by the public (Skilak /Skilak Loop Wolf Pack - Figure 1 attachment), the incidence of wolf/vehicle collisions,

and legal/illegal hunting and trapping harvest is significantly higher for these wolves than for wolves that live in remote areas with few or no roads (i.e., Point Possession Wolf Pack) ~ C v ,!;

We believe that in order to reduce the human influence on wolves within the Kenai Peninsula > J ~ ^,, portion of the CNF, management prescriptions should attempt to minimize utility corridors ///

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which provide human access into the remaining wolf habitat. Another strategy to maintain a viable population of wolves on the CNF is to reduce or eliminate wolf harvest in road accessible areas on the Kenai Peninsula, as suggested for the Copper River wolves (page 3-196)

viability of the remaining wolf population on the CNF is to reduce or eliminate wolf harvest in road accessible areas on the Kenai Peninsula, as suggested for the Copper River wolves (page 3-196)

Lynx In the Final EIS, we suggest the section on lynx (p. 3-196) acknowledge and report implications of the recent research, monitoring, and findings on the Kenai Peninsula (198 1995). Some of these findings were: 1) lynx are highly susceptible and vulnerable to human harvest, particularly by trapping due to the high degree of access; 2) that because of high accessibility on the Kenai Peninsula, there were few natural refugia where lynx could escape from the impacts of humans; and 3) lynx have been, and can be, over-exploited on the Kenai Peninsula under conditions of high lynx pelt prices and easy human access into lynx habitat

Because the principle prey of lynx are snowshoe hares, and snowshoe hares require forest habitat, preferably in an early to mid-successional stage, the amount of snowshoe hare habitat and thus lynx habitat, is severely restricted on the Kenai Peninsula portion of the CNF. This needs to be emphasized in the Final EIS because most of the habitats within the CNF on the Kenai Peninsula are non-forested, the limited forested areas within the CNF on the Kenai Peninsula are limited to valley bottoms and slopes, most of these forests are mature forests which provide only poor quality habitat for snowshoe hares and hence lynx, and most of these forested valley bottoms are already dominated by highways, roads, utility corridors, residences, etc. which makes lynx that attempt to utilize them extremely susceptible to human impacts (legal and illegal harvest, road kills, etc.). Based on this knowledge, and in reference to the first sentence in the lynx section (page 3-196) lynx are probably not common within the Kenai Peninsula portion of the CNF and are probably very uncommon in those forested portions of the CNF dominated by mature spruce and hemlock forest east of Kenai Lake

The actual distribution of adult resident lynx on the CNF on the Kenai Peninsula is therefore probably very limited and confined to only a few valleys (Kenai River, Russian River, Quartz Creek, Resurrection Creek) in the western portion of the CNF

The lynx has recently been classified as a threatened species in the continental United States and most of the remaining lynx habitat in the western continental United States occurs on USF lands. We recommend the actions taken by the USFS to conserve lynx in the lower 48 also be discussed, considered, and implemented in the Final EIS because of the similarities between lynx habitat and issues on the Kenai Peninsula portion of the CNF and in the western continental United States.

Wolverine The section on wolverines (pages 3-200 and 3-201) approximately acknowledges that wolverines are extremely rare on the Kenai Peninsula portion of the CNF with estimated densities of only 5.2 wolverines/1000 km<sup>2</sup> (or 5.2 wolverine/386 mi<sup>2</sup>). Wolverine are very susceptible to trapping and on the Kenai Peninsula may be a unique genetic population. These points and other human impacts on the wolverine populations within the CNF on the Kenai Peninsula should be expanded upon in the Final EIS. There may be only as many, or even fewer wolverine on the Kenai Peninsula portion of the CNF as there are brown bears. However, little is mentioned in the Draft EIS about how the preferred alternative with its prescriptions will protect wolverines.

The lack of information in the Draft EIS concerning wolves, lynx and wolverine emphasizes how little is known about these species on the CNF on the Kenai Peninsula, including their population sizes, densities, population trends, sources of mortality and condition of habitats. If the role of science is to be a critical component in alternative development (page 2-13), then monitoring and evaluation is a quality control process for implementing the Forest Plan (page 4-1 in CNF Forest Plan). Consequently, a more detailed monitoring process needs to be addressed in the Forest Management Plan and Final EIS. Without basic information and subsequent monitoring for brown bears, wolves, lynx, wolverine and other species on the CNF, the effectiveness of the implementation cannot be evaluated.

Trumpeter swan The fall migration of trumpeter swans on the Kenai Peninsula should be discussed. Trumpeter swans breed on the Kenai Peninsula, and utilize the Chickaloon Flats, among other areas, as staging areas in preparation for fall migration (Bailey et al. 1988). Bailey et al. (1988) reported that fall migratory movements of radio marked trumpeter swans which nested or remained on the Kenai Peninsula in summer moved in a northeast direction west of the Kenai Mountains to the Chickaloon Flats where they abruptly turned east up the Tumagain Arm of

Cook Inlet before crossing the Kenai Mountains near Portage Pass south to PWS on the CNF

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Most waterfowl probably follow a similar route from Chickaloon along the coast of Tumagai /

Arm to Portage on their fall migration (Eldridge pers. comm.). We believe the impacts of

potential utility corridors (such as electrocutions from power lines and collisions with

communication electronic towers) along swam, crane and waterfowl migration routes should be addressed and evaluated in the Final EIS.

0029063-037

Marbled murrelet The Draft EIS states that recent surveys suggest marbled murrelets are numerous and widespread throughout coastal waters of Alaska. However, on page 3-197, the Draft EIS states that population trends for marbled murrelet within the CNF are generally downward for the long-term, with a 67% decline since surveys were done in 1972 and 1973. This latter statement supports recent FWS surveys and preliminary analysis that there appears to be a decline in both PWS marbled murrelet population and the density of juveniles at sea. FWS believes the marbled murrelet population peaked in 1993 at 159,000 individuals, and has steadily declined since (population count in 1996 showed the marbled murrelet population at 82,000; at 53,000 in 1998; and at 54,000 in 2000. The murrelet productivity index is based on juvenile densities at sea (in late July through August) and their ratio to adults. These surveys were done from 1994-1999 (excluding 1996). New analysis of the data indicates that juveniles had a

significant negative trend during those years, which parallels the trend in adult numbers (pers. comm. K. Kuletz).

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0029063-040    The Draft EIS states habitat is of sufficient quality, distribution, and abundance to allow the species to maintain breeding populations. However, the CNF Plan does not provide any standards or guidelines that prevent the loss of occupied nesting habitat, for minimizing the loss of unoccupied but suitable habitat, and decreasing the time for development of new suitable habitat. The need to maintain high quality marbled murrelet terrestrial habitat is essential. Management recommendations for the marbled murrelet need to address two different biological time frames: 1) aspects of its life history and demographic trends, and 2) the length of time required to develop the majority of new nesting habitat or improve current forest habitat conditions. Short-term actions should address the current population declines and long-term actions should address the long time-frame required to cultivate or enhance mature forest habitat conditions.

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The FWS suggests that the USFS establish Standards that maintain large blocks of suitable habitat; maintain and enhance buffer habitat; and decrease risks of loss of habitat due to fire and wind throw. For long-term actions, we suggest increasing the amount, quality and distribution of suitable nesting habitat; and increase the stand size of suitable habitat to provide more interior forest conditions. Other strategies may include protecting currently unsuitable habitat to allow it to become suitable (i.e., recruitment areas), reducing fragmentation; providing replacement habitat for currently suitable nesting habitat lost to disturbance events and habitat lost to both timber harvest and previous disturbance events (mitigation). These steps are key to long-term survivability of this species and should be addressed in the Final EIS.

Northern Goshawk Northern goshawks are long-lived birds that have a low reproductive rate and occur in low densities Reynolds (1989) found goshawks generally select mature or old-growth coniferous or deciduous forest with dense canopies, on gentle slopes, at lower elevation

for nesting and foraging. Goshawks generally remain in the same area throughout the year ; however, they may extend their area if prey abundance is low. Prey availability can influence nesting success and productivity.

Hall (1984) found that goshawks build large nests which are situated below the canopy of the nest tree. Literature suggest goshawks may maintain up to three or four alternative nests, which may be used in alternative years. Studies indicate goshawks may use the same nest for multiple years or build new nests in the same or different stand, or repair an old nest. Alternate nests may be loosely clustered within a single stand or widely separate in different stands (Beebe 1974, McGowan 1975, Woodbridge and Detrich 1994). Reynolds (1983) indicated goshawk home ranges may be between 5,000 to 8,000 acres. However, literature suggest that in fragmented forests, home ranges may extend up to 17,000 acres.

Studies suggest that habitat structure changes may have a direct and indirect impact on goshawk populations. Predation on nestlings is influenced by the forest structure immediately around the nest and in the landscape. Forest structure influences thernal cover, which is directly tied to energy budgets and productivity as well as the abundance and accessibility of prey. Reynolds et al. (1992) suggest focusing on desired forest conditions and links between forest structure and (: prey availability. Studies in Southeast Alaska suggested beach fringe (first 1,000 feet from shoreline), for example, may also be important to goshawks since the ecological interface between the marine and terrestrial environment likely supports a greater diversity or abundance of goshawk prey species.

Most experts agree that a long-term objective should be to manage or maintain suitable habitat at the landscape scale. Goodman (1987) suggests that any management that reduces habitat quality to near minimum conditions will substantially increase the probability of extinction resulting from chance environmental events or catastrophes. Habitat change also could influence adult and juvenile survival rates by changing the vulnerability of goshawks to predation or interactions with competitors. Reserves of protected habitat distributed across the landscape may be one way to ensure suitable habitat for goshawks.

The Draft EIS indicates that of the three geographic regions, PWS possesses about 354,582 acres of old growth forest, followed by Copper River Delta with 24,700 acres, and the Kenai Peninsula at 17,365 acres. The Forest-wide Guidelines suggest that an active nest will be protected, but after 2 years if it is no longer "active," protection measures for the site may be removed. Th (~7

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Draft EIS further states that the overall risk to northern goshawks is considered low for all alternatives and the likelihood of forest management activities affecting the viability of northern goshawks is low because the forest-wide Standards and Guidelines will protect nest sites.

It is unclear what evaluation criteria was used in the Draft EIS or what risk factors were included in this assessment. According to the Draft EIS, most forest multiple use management activities ~

will be concentrated in the valley bottoms where most of the forested habitat also occurs. The risk:

concentration of activities in lower elevation habitats may have a significant influence on the

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surrounding landscape. Management activities, other than timber harvest, can influence the abundance of principal goshawk prey species. For example, forest roads remove vegetation, initiate secondary succession, and affect vegetation in plant communities along roadways and in adjacent stands. These competing activities may impact old growth forest thus reducing even further, the extent and amount of this limited habitat.

Furthermore, we point out that there are no standards for goshawk nest protection, only guidelines. Guidelines are an advisable course of action that "may be followed," but are optional. It is unclear how such guidelines, if they are optional, will adequately protect the individual species or maintain a viable, well-distributed population throughout the CNF. We believe specific goshawk nest site management guidelines are unsatisfactory because their success as a conservation strategy is dependent upon locating goshawk nests, which has proven

to be difficult. We encourage the USFS to develop a habitat management strategy to maintain /

long-term, well-distributed goshawk populations. The Final EIS and Standards and Guidelines /-eo- should address this issue in more detail. /

0029063-041    Queen Charlotte Goshawk Over the last decade the Queen Charlotte Goshawk (*A. g. laingi*) has received much attention. The Queen Charlotte Goshawk is believed to breed primarily in Southeast Alaska, but may extend as far north as PWS in Southcentral Alaska (Jones 1981). At this time it is unknown if the Queen Charlotte goshawk occurs in PWS. We encourage the USFS to conduct further research to determine if the Queen Charlotte Goshawk range does extend to the PWS area.

0029063-042    Black Bears We believe that more discussion of black bears and impacts to them should be incorporated into the Final EIS.

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0029063-057    Page 3 - 184. Line 4109 The Final EIS should clarify whether the use of a "viability analysis" is

in reference to a "population viability analysis." If so, then a minimum viable population (MVP) should also be defined. A generally regarded definition of MVP is the smallest discrete

population having a 99% chance of remaining extant (alive) for 1,000 years despite the effects of demographic, environmental, genetic and catastrophic events (M. Shaffer. 1981. Bioscience).

Page 3-188, Table 3-45: Management Indicator, Sensitive, and Species of Special Interest We recommend switching marbled murrelet to the "TES" column. It is a seabird unique in its upland habitat and the most abundant summer breeding seabird in PWS. The population appears to be declining in PWS, and marbled murrelet is a listed species in Washington, Oregon, and California. In addition, the murrelet is dependent on old-growth forests for nesting.

To ensure that management indicator, sensitive, and species of special interest within the CNF

are adequately represented through use of USFS evaluation species models, we recommend

adding the following species to this table: Kittlitz's murrelet, Tule greater white-fronted goose, a shorebird species that utilizes significant intertidal habitats within CNF (e.g., surfbird, western sandpiper, dunlin), and sea otters; and evaluating them in the Final EIS.

Kittlitz's murrelets nest on the ground on or near mountain tops in unvegetated scree fields and sometimes in cliff faces, particularly near glaciers and in previously glaciated areas. These birds forage in the summer near tidewater glaciers and glacial stream outflows. PWS and Kenai Fjords are key breeding areas. The species is presumed to winter over the open ocean; however, little is known about their winter range. We are concerned about Kittlitz's murrelet because of its patchy distribution, rare status (approximately 20,000 or less worldwide), and downward population trends. The population has declined in PWS by approximately 95% since the 1970s, including declines since 1989 (Kuletz pers. comm. 2000). Threats to the bird's survival include global warming, oil spills, gillnet fishing bycatch, and potential boat disturbances within their summer foraging areas around tidewater glaciers. Because they are strongly associated with tidewater glaciers, there is potential for impact or disturbance from tourism, because most tour cruises visit these same glaciers. The species was formerly classified as a "Species of Special Concern" by the FWS. However, this classification no longer exists under the Endangered Species Act (Day

et al. 1999). We recommend adding Kittlitz's murrelet to the "TES" section

The Tule greater white-fronted goose is one of the rarest waterfowl in North America, with a population of less than 8,000 birds. A major portion of the species' population stages in a restricted wetland complex adjacent to the Gandil River, which is used heavily by moose hunters. The Bering Coal Fields, where coal extraction may occur, are located approximately 20

kilometers upstream from the birds' Gandil staging area (Ely 2000). We recommend adding th

Tule greater White-fronted goose to your "TES" list.

In addition, a shorebird species such as the surfbird, dunlin, or western sandpiper that represents habitat use of significant shorebird intertidal feeding and migration areas occurring in areas like

We also believe that sea otters should be included as a species of special interest because of their presence throughout PWS; their status as a "recovering," but not yet fully recovered species relative to the EVOS; and the fact that sea otters are a subsistence-harvested species. Sea otters occupy the nearshore intertidal areas, which results in them having a relatively high potential for interaction with related recreational activities and shoreline development. In addition, a paragraph should be included on sea otters in Chapter 3, as for the other species of special interest.

Furthermore, we recommend Northern Montague Island and Copper River Delta be included as management indicator species locales and that brown bear should be switched to the SSI column

Page 3-190\* Table 3-47 The additional "TES" species identified in our comment, above, about

Table 3-45 should also be included in this table. Habitat associations and relative importance for

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Kittlitz's murrelet include moss-lichen (for rocky slopes above tree line) = low, Tidal Estuarine = ( moderate high, Alpine = high, and sheltered inshore waters = high. We recommend changing the following habitat importance for wolf in Forested (denning habitat) and scrob (increased abundance of prey) from "moderate" to "high." We also recommend adding "moderate" for habitat importance in riparian areas for trumpeter swans. Also, remove black oystercatcher from "tidal/estuarine," and change Townsend's warbler in "riparian" to low and in "scrob" to low. Page 3-191. Management Indicator Species As stated in comments above, about Table 3-45, we recommend adding an indicator shorebird species such as the shorebird, dunlin, or western sandpiper that represents habitat use of significant shorebird intertidal feeding and migration / areas within the CNF. Also, on line 4299 insert "breeding" between abundant and species.

Page 3 - 195. Line 4483 A citation should be included with the estimate of high density (0.1 adult wolf per mile squared), which is stated as being at a saturation point.

Page 3-196\* Line 4532 Since marbled murrelets are much larger in mass than robins, this sentence should be changed to read "The marbled murrelet is a small alcid that weighs approximately 230 grams."

Page. 3-197, Lines 4546-4556 We believe this paragraph needs to be updated in the Final EIS. Lines 4546-4551 should be deleted and replaced with: "The most recent surveys (1998 and 2000)

show the marbled murrelet PWS population at ~ 53,000 birds. After a 1993 peak of 159,000

marbled murrelets have declined. Population estimates were ~ 300,000 in 1972, ~107,000 in 1989, 106,000 in 1991, 159,000 in 1993, 82,000 in 1996, 53,000 in 1998, and 54,000 in 2000. Surveys of juveniles at sea also indicate a decline since 1994, parallel to total population estimates (Kuletz 2000)."

We recommend removing "cyclic" which precedes "changes in marine food . . ." in line 4552

because the FWS does not know definitively if the food sources are truly cyclic. In line 455 / ce-

remove "likely" preceding . . . "their primary nesting habitat."

Lines 4555-4556 should be deleted and replaced with the: "Lance et al. (In press) concluded that marbled murrelets are not recovering. Thus, both PWS-wide population surveys and productivity surveys indicate that the marbled murrelet population is in decline."

We also recommend emphasizing the potential problems with corvids, which tend to increase where human activity increases. We suggest adding the following to the marbled murrelet section: "Corvids (jays, magpies, crows) appear to be the main predators of eggs and nestlings, ~

and they thrive in fragmented habitats and where human food or refuse attracts and increases

their numbers. This is one problem that might be manageable, possibly through placement of recreational facilities, education, enforcement, and other practices."

Page 3-199. lines 4650-4654 We suggest changing to wording to reflect that these are dominant habitats of Townsend's warblers, not that they are the most abundant breeding bird found here. Also, add this sentence: "The highest densities of Townsend's warblers (birds/route) in the Alaska Breeding Bird Survey are recorded on routes on the eastern Kenai Peninsula (B.A. Andres, FWS, pers. comm.)."

Page 3-201. Sensitive Species As stated in our comment about Table 3-45, we recommend adding Tule greater white-fronted goose and Kittlitz's and marbled murrelets to this section. We believe it is important to recognize that PWS supports relatively high densities of two important species, Kittlitz's and marbled murrelet, which are rare and/or endangered elsewhere. Both of

these species appear to be experiencing population declines in PWS. The marbled murrelet is

especially sensitive to upland management prescriptions, and the Kittlitz's murrelet is sensitive to activities in the glacially-influenced intertidal/nearshore areas.

Page 3-201, Line 4738 The Final EIS should clarify the intent of the sentence that ends with T- "...constitutes

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the powers a viability concern."

Page 3-207, Table 3-49 Under conservation options for marbled murrelet, the citation "Kulitz" is

misspelled and should read (Kuletz 1998) /

Page 3-208, Table 3-50 We recommend adding "wolf" to the list of species in "early forest succession" under "Kenai Peninsula." We also recommend adding Tule greater white-fronted / ea goose, Kittlitz's murrelet, and an indicator shorebird species to this table.

Page 3-209, Table 3-51 Since it is possible that marine transfer facilities and docks could occur within sheltered inshore waters, we recommend that you add these two items under the Sheltered

Inshore Waters category. Potential risks to wildlife also include impacts caused by marin -, ~ ,/

recreation, such as motor boats, kayaks, and wildlife/glacier tour boats. We also recommend J ~ ~J

section bc added to this table in the Final EIS to help evaluate risk factors to wildlife from these activities. The section could be titled "marine recreation/tourism cruises" and would have 'x's under tidal estuarine, rocky coast, beach association, and sheltered inshore waters.

Page 3-210, line 4962 Change "seabirds" to "waterbirds." ( ~ ^17

Page 3-210. Paragraph 5 We agree with the recommendation to apply seasonal restrictions and buffcr zones in areas where high concentrations of black oystercatchers nest. We look forward to furtITcr rsearch and coordination between the FWS and USFS to help define buffer sizes and ~ 7 dctrnrnne distribution of high concentration black oystercatcher nesting areas

Paee 3-221. Line 5244 The wolf was not reintroduced to the Kenai Peninsula. Wolves wer o

extirpated by the 1920's by poison and bounties, and wolves naturally recolonized in the late ~eGt

1950's - early 1960's, when predator control programs stopped. We suggest this be corrected

Page 3-223, Marbled Murrelet, Lines 5293-5299 The population estimate should be changed t

~ 53,000 in line 5293. Fragmentation of forests ffrom roads, development, and harvest should b )

included in line 5294 as an additional risk to marbled murrelet habitat. In line 5299 the Final EI

should define "old-growth" before concluding only 1% oi marbled murrelet nesting habita /

would be impacted under Alternative A. The range of 'old-growth' types is large in PWS, an ~f

most of it is sub-optimal at best for marbled murrelet. Since marbled murrelets use a specifIT ~

type of old-growth, this alternative probably impacts much more than 1%. We sugges

consulting with USFS Ecologist Rob Develice to arrive at a more realistic estimate, based on hi

model of marbled murrelet nesting habitat in PWS. Also, proximity to good feeding areas woul

make some forest stands very important, so even if the total impacted area is small, the impact t

the marbled murrelet population could be sigruificant. This should be discussed in the Final EIS

In productivity studies conducted by Kuletz (2000), high-quality nesting habitat was a signifTcan

predictor of high marbled murrelet productivity. Because productivity for this species varie /

considcrably among regions of PWS, the importance of high quality habitat areas is critical an /

such areas should not be lumped with large tracts of low-quality old-growth. //

Pa~e 3-239, Line 5908, Effects on wildlife ffrom transportation and utilitv corridors Informatio , - ~, /

should be provided in the Final EIS on the lethal effects to birds ffrom electrocutions an ;: c

collisions with power lines.

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0028328-029    The DEIS does not provide adequate analysis of the impacts to wildlife populations from helicopter overflights and/or landings. Helicopter landings permitted in the preferred alternative on the Kenai Peninsula is extreme. For example winter helicopter use is allowed or conditionally allowed in an incredible 79% of the region. (See Attachment C) Helicopter activity should be dramatically decreased and monitored to ensure it does not infringe on wildlife habitat, residents and recreationalists enjoying the backcountry. We are especially concerned about the effects of helicopters on goats and bears. There have been some excellent studies documenting the impacts of helicopters to mountain goats. (See Bleich, V.C.; Bowyer, R.T.; Pauli, A.M.; Vemoy, R.L.; and Anthes, R.W. 1990. Responses of mountain sheep to helicopter surveys. Cal. Fish and Game) A forestwide analysis of cumulative impacts must be produced prior to opening such vast tracts of the Chugach to helicopter permitting. It will be very difficult for the Forest Service to reduce the numbers of permits in the future; the most prudent approach would be a moratorium on any additional permitting until a forestwide analysis is complete.

**Environmental Impacts of Motorized Uses**

The two-stroke motor, found on 75% of all boats and personal watercraft, causes 1.1 billion pounds of hydrocarbon emissions per year. These high emissions are attributed to the design inefficiency of the two-stroke motor, which has remained essentially unchanged since the 1940s.

The EPA estimates that one hour of operation by a 70-horsepower two-stroke motor emits the same amount of hydrocarbon pollution as driving 5,000 miles in a modern automobile. (William Charmley, Technical Specialist, EPA Office of Non-Road Emissions, Ann Arbor, MI, 1996) Using these figures, every year marine two-stroke motors spill 15 times more oil and fuel into waterways than did the Exxon Valdez. (Eric Nelson, "Polluting for Pleasure?", Sail Magazine, November 1994, 26)

The United States Environmental Protection Agency confirms that 25-30% of the fuel "consumed" by two-stroke engines (which power snowmobiles), enters the environment, unburned, "out the tailpipe." Petrochemicals released from two-stroke motors float on the surface microlayer and settle within the estuarine and shallow ecosystems of bays, lakes, rivers, and oceans, where marine life is youngest and most vulnerable. These areas are the base of the food chain, inhabited by fish eggs, larvae, algae, crab, lobster, shrimp, and zooplankton. Studies confirm that toxins released by snowmobiles can affect water quality and marine ecosystems. Air pollution around trailheads and snowmachine corridors, which often run along or on top of streams and rivers, can increase the acidic and toxic concentrations of nitrogen, sulfate, and hydrocarbon compounds in snow. (Ingersoll and associates, 1997)

Wildlife are often at risk in the presence of snowmobiles. In addition to harassment and increased deaths, snow compaction can have serious impacts to small mammals living beneath the snow (Schmid, 1972). As a reminder, the Forest Service shall plan and implement off-road vehicle use to protect land and other resources, promote public safety, and minimize conflicts with other uses. Forest planning shall evaluate the potential effects of vehicle use offroads. (CFR Sec. 219.21 (g)) We believe the DEIS inadequately describes and analyzes potential adverse impacts.

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0028328-031

Fish and Wildlife

I. Oddly, the DEIS glosses over Kenai Peninsula brown bear concerns, beyond issues raised with the Brown Bear Core prescription. Although the IBBST is not 100% certain KP brown bears are an isolated species, they are more certain than uncertain, as the DEIS states (3-192). Elsewhere, the DEIS states seven subspecies of mammals are restricted to the Kenai Peninsula (3-58), although it fails to mention which ones. Can it be that seven mammals are restricted to the peninsula, none of which are the peninsula brown bear?

The preferred alternative should remove any reference to the Juneau Creek option for the Cooper Landing Bypass. If this project moves forward, there will be a public process, which is a more appropriate place for the Forest Service to voice its opinion. It's difficult to interpret what the intent of this inclusion means. The IBBST, of which the Forest Service is a member, has indicated this bypass could be extremely detrimental for brown bears.

2. The Forest Service Manual (2672) requires the Regional Forester to identify sensitive species occurring in the region. Brown bears should be listed as a Species of Special Interest in the FEIS (Table 34s)

3. ACE supports past requests by Department of Fish and Game to list river ouers as a Management Indicator Species. Due to the otter's movement between aquatic and terrestrial habitats, they would prove a unique indicator of relational ecosystems.

4. Certain species are missing from the DEIS:

· Killer whales. Orca pod (AT-I) a transient pod, are in serious decline. Due to their diet, which consists mainly of marine mammals, they hunt along the rocky coastline of Prince William Sound. AT- I was heavily impacted by the Exxon oil spill; 22 individuals were known prior to the spill, as of last summer the pod is down to 10. (The orca that washed up this summer in the Cordova area was from this pod.) The AT-I pod has been studied for about 20 years and has never been seen outside the Sound or Kenai Fjords, or to mix with other pods. Transients are not known to interbreed, and this particular pod has not bred since early 80s. At this time, it's not generally known why the pod has not bred, however their bodies carry one of the highest contaminant loads of marine mammals in Alaska. In addition, their diet is heavily dependent on harbor seals, a population also in serious decline. The AT- I pod is acoustically distinct, geographically distinct and genetically distinct. Unfortunately, the AT- I pod was not considered damaged by the oil spill, perhaps because they are harder to track, both due to their hunting methods, in which they must maintain cover in order to be successful and to the fact they travel alone. The resident (AB) orca pod, which was considered damaged by the spill, appears to be faring better. As of 1999 there were 25 individuals, which is a slight increase. However, they have not recovered to their pre-spill population, which number 36. Both resident and transient orcas are known to be disturbed by marine traffic, but transients are much more susceptible due to their coastal hunting grounds. These whales should be added as a Species of Special Interest in the FEIS and impacts to their habitat analyzed. Land based activities impact transient orcas in particular.

· Harbor seals, which have declined by over 40% in the last two decades, should be added as a Species of Special Interest.

· Northern Flying Squirrel. This little known nocturnal species has a threefold symbiotic relationship that is critical to successful reforestation. A principal source of food for the northern flying squirrel is mycorrhizal fungi. When the flying squirrel eats these fungi it defecates the spores in a capsule of fertilizer, thus assuring germination of those spores deposited in a suitable location. The spores germinate near the roots of trees, establishing a symbiotic relationship. The fungi extract water and minerals from the soil and exchange these essential nutrients, via the roots of the tree, for the carbohydrates created by the leaves or needles of the tree during photosynthesis. It is well documented that if the soil lacks mycorrhizal fungi, reforestation will suffer. Since these fungi are buried in soil, their proliferation is dependent on species like flying squirrels. But having a population of flying squirrels requires acceptable habitat, which does not include wide, open areas such as large clearcuts or utility corridors. A paper by Mowery and Zasada discuss suitable habitat in Alaska for the northern flying squirrel (A Mowery, R.A. and Zasada, J.C., 1982. Den tree use and movements of northern flying squirrels in Interior Alaska and implications for forest management. Proceedings from fish and wildlife relationships in old-growth forests. April 1982, Juneau, Alaska). We recommend this species be added to the Management Indicator Species list, especially given the "forest health" issue revisited in the Forest Restoration prescription.

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0029460-005

Marine mammals are very important to the ecology of Chugach National Forest and to the ACA's constituents. They are an important part of the sea kayaking experience in Alaska, The EIS should also have evaluated the impacts of agency decisions on marine mammals such as sea otters and Orcas. The ACA believes that marine mammals -- especially otters, sea lions and seals - are likely to be impacted by the land management decisions of the Forest Service. Please assess these impacts in the final EIS and make any necessary adjustments in the management plan to ensure the health of these species.

0029471-001

It's somewhat ironic that the FS ends up being the manager for lands damaged by the Exxon spill, Key wildlife are completely left out of the DEIS - such as harbor seals, killer whales and sea otters, Yet, federal law compels the FS to consider management implications to those species, which are federally listed - stellar sea lion and humpback whale. Land activities clearly will affect fish and aquatic wildlife, in particular those mammals that have haul outs on land or those who feed on land-based animals,

0034253-008

The EIS should, also have evaluated the impacts of agency decisions on marine mammals such as sea otters and Orcas.

0034261-004

The EIS should also have evaluated the impacts of agency decisions on marine mammals such as sea otters and Orcas. Please do the right thing. Please develop a management plan that better protects this wild and special part of the world.

0034412-006

Wildlife Standards.

4. Wildlife research and other wildlife projects will minimize impact to the wilderness character.

0034444-005

The EIS should also have evaluated the impacts of agency decisions on marine mammals such as sea otters and Orcas.

0034891-004

4. Wildlife. The cumulative effects section contains two serious deficiencies. In the first paragraph, on page 3-239, the text seems to dismiss the relevance of activities occurring on lands outside of Forest Service control. Cumulative effects of activities on these lands are relevant to National Forest Resources regardless of who has jurisdiction over these activities. It is baffling why the Forest Service completely ignores cumulative effects on wildlife of development on non-forest lands in this section, while simultaneously including an entire section on Management of Other Public and Private Lands in the Recreation and Tourism Cumulative Effects analysis on page 3-284.

The second deficiency with the wildlife Cumulative Effects analysis relates to the decline of unroaded and undeveloped area in low-lying forested valleys on the Kenai Peninsula (top of p. 3-240). Simply mentioning that development has occurred is insufficient. The Final EIS should contain a quantitative analysis of the change in percentage of developed and undeveloped acreage in these low-lying forested areas that are critical to wildlife.

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0035822-003

The EIS should also have evaluated the impacts of agency decisions on marine mammals such as sea otters and Orcas. The ACA believes that marine mammals -- especially otters, sea lions and seals - are likely to be impacted by the land management decisions of the Forest Service. Please assess these impacts in the final EIS and make any necessary adjustments in the management plan to ensure the health of these species.

0035947-001

The EIS should also have evaluated the impacts of agency decisions on marine mammals such as sea otters and Orcas. Please do the right thing. Please develop a management plan that better protects this wild and special part of the world.

0035953-001

The EIS should also have evaluated the impacts of agency decisions on marine mammals such as sea otters and Orcas.

0036574-016

Failure to Consider Impacts to Fish and Wildlife in the Marine Environment

The DEIS and Revised Forest Plan fail to adequately consider impacts to wildlife because of the failure to include consideration of the tidelands and submerged lands of Prince William Sound. For example, Table 3-51 that lists potential risks to wildlife does not include commercial and recreational vessels. DEIS 3-209. Additionally, tables 3-46, 3-47, and 3-50 do not include 'marine waters' in describing general habitat types and geographic areas of concern for management of indicator species and species of interest. The Forest Service cannot analyze increased access to the Forest and its waters until the agency includes the marine environment - water, tidelands and submerged marine lands in its planning.

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0036574-019

Harbor Seals

The DEIS is utterly devoid of information regarding harbor seals in Prince William Sound. The only specific reference is found in the Revised Forest Plan in Table 2-1 entitled, 'Important wildlife/tideland habitat sensitivity and seasonality.' Revised Forest Plan 2-10. This table appropriately reflects harbor seal haulouts as important for pupping and molting

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4/ 'Standards are actions that must be followed or are required limits to activities in order to achieve forest goals.' Revised Forest Plan 2-7.

in late May through mid-July, and June through October respectively. Revised Forest Plan 2-10. Also, harbor seals are presumably included under the heading entitled 'Stellar Sea Lions/Other Marine Mammals,' where the Forest Service lists the three standards described above in the Stellar Sea Lion section.

The DEIS should discuss harbor seals in Prince William Sound as well as the planning impacts on the seals and their habitat. These seals have experienced a severe population decline of over forty percent in the last twenty years and are continuing to decline. Harbor seals are probably the most wary seal species, taking shelter in the water at the slightest provocation. Disturbances caused by human activities generally have widespread effects, frequently frightening animals into the water. Being distributed primarily along shorelines and on nearshore islands, and having a strong sight fidelity, they are especially at risk from any coastal development activities. Two particularly critical periods are during the annual molt when seals haul out in large numbers to shed their hair, and the breeding season, especially the two to four week lactation period. During the molt, seals spend more time out of the water than any other time of the year, apparently to enhance palage growth by warming the skin. They also have decreased metabolic rates, and hence food requirements during this time, to allow them to spend less time in the water feeding. In the case of lactation, if seals are spooked off the rookery too often during lactation, pups may experience reduced growth rates due to decreased nursing time and increased thermal stress caused by heat loss in water, or may even be abandoned by mothers who chose to move to a less disruptive site. During the molt, thermal stress could also be a factor if animals with reduced metabolic rates are forced to spend too much time in the cold water.

As discussed above regarding Stellar sea lions, there are no standards for harbor seals regarding distance limitations by vessels in the marine waters near important habitat or the seals themselves. Restrictions must be placed on vessels to minimize disturbance to harbor seals, especially in times of molting and pupping. In addition, there are no limitations specifically regarding vessel distances near foraging harbor seals or foraging habitat.