

APMA J20195690 Amend # 1
RESPONSE TO AGENCY COMMENTS: US FISH AND WILDLIFE SERVICE

Item #	Issue Topic	USFWS Comments	DMLW Response
1	Introduction	<p>The Chilkat watershed produces Alaska’s highest vascular plant species richness and the greatest mammal diversity in Southeast Alaska due to an overlap of coastal and interior species. It also provides some of the best salmon habitat in Southeast Alaska. This high-quality salmon habitat facilitates the annual congregation of thousands of bald eagles (<i>Haliaeetus leucocephalus</i>) in the Chilkat River valley from hundreds of miles away. Given the area’s rich biodiversity and relative lack of legislative and administrative protection, the Service encourages the Alaska Department of Natural Resources (ADNR) to implement measures that will limit adverse impacts from permitted activities to fish and wildlife within the action area.</p>	<p>Comment Noted. The Haines State Forest is managed pursuant to the provisions Article 8 (Natural Resources) of the Alaska Constitution, Haines State Forest enabling legislation AS 41.15.300 - .330. the Alaska Forest Resources and Practices Act AS 41.17, the Alaska Lands Act AS 38.05 and the provisions of the Haines State Forest RMA Management Plan. As described in AS 41.15.300(a) "The primary purposes for the establishment of the Haines State Forest Resource Management Area are the utilization, perpetuation, conservation, and production of the land and water including but not limited to the use of renewable and nonrenewable resources through multiple-use management and the continuation of other beneficial uses including traditional uses and other recreational activities." From Haines State Forest Management Plan (Chapter 2): <u>The State Forest contains valuable habitats for fish and wildlife species that support the economy and lifestyle of the Haines community. The management of the Forest will minimize the impact on these resources, even in units classified as Forest Land. 1. Maintain and enhance the fish and wildlife resources that support commercial, recreational, and subsistence activities in the Haines area. 2. Maintain or improve the level of water quality through sound land management, stream bank management, and silvicultural practice. 3. Maintain and enhance the existing diversity of fish and wildlife habitat through coordinated interagency management, habitat enhancement, site rehabilitation and research programs.</u></p>
	Introduction	(continued from Comment 1 above)	<p>(continued from DMLW Response 1 above) In addition to the creation and management of the Haines State Forest and adjacent Chilkat Valley Bald Eagle Preserve, and the requirements of the Land Use Permitting process; the State of Alaska has robust regulatory programs to manage the use and appropriation of water AS 46.15 via the Alaska Water Use Act, to protect resident anadromous fish through the Alaska Department of Fish and Game's implementation of the fish habitat requirements of AS 16.05, and to protect and improve Alaska's water quality via the Alaska Department of Environmental Conservation's implementation of Alaska's strict water quality standards and the regulation of the discharge of pollutants via the Alaska Pollutant Discharge Elimination System. (APDES). With all of the above taken as a whole, its clear that the Service's comment regarding the "relative lack of legislative and administrative protections" is unfounded and promotes an unwarranted narrative.</p>

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2	Introduction	The following is a summary of issues of concern to the Service that we recommend the ADNR consider in their evaluation of the Palmer Project APMA Amendment. This is not an exhaustive list that identifies every issue for inclusion; rather, it is a list of issues that the Service requests specific attention to, either because of our responsibilities under Federal law or their importance to fish, wildlife, and their habitat.	Comment Noted. DMLW has responded to the presented issues of concern in this Comments Response Matrix.
3	Bald and Golden Eagles	The Bald and Golden Eagle Protection Act (BGEPA; https://www.fws.gov/law/bald-and-golden-eagle-protection-act) prohibits the take of bald and golden eagles, their parts, nests, and eggs either directly or indirectly. Under the BGEPA, “disturb” means to agitate or bother an eagle to a degree that causes, or is likely to cause: Injury (including a decrease in an eagle’s chances of survival). A decrease in its productivity (including by substantially interfering with normal behavioral patterns, including breeding, feeding, or sheltering behavior). Nest Abandonment	Comment Noted. DMLW has required that as a term of the issued permit that "Operations under this permit shall be conducted in conformance with applicable Federal, State, and local laws and regulations now, or hereafter, in effect during the life of the permit."
4	Bald and Golden Eagles	During the nesting period (defined in Alaska as March 1 to August 31), breeding eagles occupy and defend territories. A territory includes an in-use nest and may include one or more inactive, alternate nests that are built or maintained but not used for nesting in a given year. Both in-use eagle nests and alternate nests are protected under the BGEPA.	Comment Noted.
5	Bald and Golden Eagles	Eagles do not have to be present during the period of human activity for such actions to result in take. Actions that result in habitat loss or degradation (e.g., vegetation clearing) may result in take if they interfere with normal breeding, feeding, or sheltering habits and cause injury, a loss of productivity, or nest abandonment. Take becomes more likely with the loss or degradation of key landscape features, such as eagle nest sites, roost sites, and foraging areas.	Comment Noted.

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6	Bald and Golden Eagles	The Service maintains an eagle nest database that may provide insight into nesting activity in the project area. These data are available in an online spatial database (https://eagle.abrinc.com/) but have historical value only; nests displayed on the Historical Bald Eagle Nest Map may no longer exist on the landscape, and new nests may have been built that are not identified in the database. The Historical Bald Eagle Nest Map is not intended to take the place of a survey to determine the presence/absence, status, or exact location of a current eagle nest. Current eagle nests and potential habitat may or may not overlap with the nesting areas shown.	Comment Noted. DMLW has provided your comment letter to the applicant.
7	Bald and Golden Eagles	The Service appreciates the inclusion of annual raptor surveys as a mitigation measure in the amendment application, and we encourage the project proponent to submit survey results to the Service (preferably in WGS 84) format so that we can provide technical assistance as needed and update our nest database with the most current information.	Comment Noted. DMLW has required that as a term of the issued permit that Constantine Metals disclose the location of any prior identified raptor nests (in use, alternate, or even presumed abandoned), nests identified in any continuing surveys during the duration of this permit, and any nests inadvertently discovered during field activities prior to the onset of project activities or within 48 hour for future discoveries. This requirement applies to any nest within a half mile of the activities authorized in the issued Land Use Permit.
8	Bald and Golden Eagles	To avoid disturbing nesting bald eagles, we recommend avoiding activities within 660 feet of an in-use or alternate nest, unless it involves blasting, in which case we recommend a half mile buffer. Golden eagles are more sensitive to human disturbance than bald eagles, so we recommend a half mile spatial buffer around in-use and alternate nests for all types of disturbance.	<p>Comment Noted. DMLW concurs with the Service that avoidance buffers around in-use and alternate nests are necessary for mitigation of impacts to Bald and Golden Eagles. The applicant has proposed larger half mile buffer for project activities. DMLW has reviewed your comment and the Service's National Bald Eagle Management Guidelines NBEMG (2007). DMLW has required a general avoidance buffer for Bald Eagle Nests of 660' from access construction utilizing heavy equipment and at the Geotech drill sites. For use of small charge explosives during seismic refraction studies, DMLW has conducted a desktop airblast attenuation and vibration study analysis. Our office understands that the Service's recommendations were based on application materials that did not include an estimated sound pressure level or peak particle velocity (ground vibration). As the blasts are contained (buried under 3-5' of soil), the peak linear unweighted decibels of the largest charge shot are anticipated to be around 157 (dB) at the blast site, which is comparable to open air firing of a .30-06 rifle commonly used for subsistence and sport hunting. DMLW understands that the half mile buffer recommendation is derived from the NBEMG Category H (Blasting and other loud, intermittent noises). However, the activity is more suitably related to Construction Category B (660' buffer) or even Cat F which includes firearms discharges due to hunting. Due to the limited number of blasts along each seismic line and the attenuation of the air blast (air overpressure) as distance increases away from the shot hole, the DMLW has determined that a 1320' or quarter mile buffer requirement for blasting purposes is appropriate. The applicant may continue to implement their proposed half mile buffer for Bald Eagle nests at their discretion.</p> <p>DMLW has also included the requested half mile spatial avoidance buffer for Golden Eagles as a provision of the land use permit and anticipates that it unlikely that any Golden Eagle nests are located within a half mile of any of the project activities.</p>

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9	Bald and Golden Eagles	If it is not possible to complete work outside of the nesting season and if eagle nests are located within a half mile of the project site, the project proponent may need an eagle nest disturbance permit, in which case we recommend coordinating with the Service. Please visit our Eagle Permits website for additional guidance (https://www.fws.gov/program/eagle-management/eagle-permits).	Comment Noted. The DMLW has required reporting of nests located within a half mile of the activities authorized in the issued Land Use Permit. See DMLW Response to Comment 8 regarding the desktop airblast and vibration analysis.
10	Migratory Birds	The Service appreciates the consideration of vegetation clearing timing windows during peak avian breeding (April 15 to July 15) in the project area. To the maximum extent possible, we recommend avoiding activities that may displace birds after they have laid their eggs and before the young have fledged.	Comment Noted.
11	Migratory Birds	Construction and operational lighting should also be planned and implemented to ensure they do not unnecessarily overlap with native bird breeding seasons. To the maximum extent practicable, limit construction activities to the time between dawn and dusk to avoid the illumination of adjacent habitat areas. If construction activity time restrictions are not possible, use down-shielding, directional lighting, and/or low intensity lighting to avoid light trespass into bird habitat.	Comment Noted. DMLW has provided a copy of your comments to the applicant.
12	Migratory Birds	The Service also recommends the following conservation measures to prevent birds from becoming trapped in project structures or perching and nesting in project areas that may endanger them:	Comment Noted. DMLW has provided these recommendations to the applicant. As a standard permit stipulation all borehole casings are required to be capped until they are plugged or removed.
13	Migratory Birds	Install anti-perching devices on facilities and equipment where birds may commonly nest or perch.	See comment response 12 above
14	Migratory Birds	Cover or enclose all potential nesting surfaces on the structure with mesh netting, chicken wire fencing, or other suitable exclusion material prior to the nesting season to prevent birds from establishing new nests. The	See comment response 12 above
15	Migratory Birds	Cap pipes and cover/seal all small dark spaces where birds may enter and become trapped.	See comment response 12 above
16	Migratory Birds	The following deterrents are also encouraged to prevent birds from nesting on structures where they may cause conflicts, endanger themselves or create a human health and safety hazard:	Comment Noted. DMLW has provided these recommendations to the applicant.

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17	Migratory Birds	During the nesting season, monitor potential nesting surfaces at least once every three days for nesting activity. It is preferable to remove non-active nests (without birds or eggs), partially completed nests, or new nests as they are built (prior to occupation). If birds have started to build nests, the nests should be removed before they are completed. Water should not be used to remove the nests if nests are located within 50 feet of any surface waters.	See comment response 16 above
18	Migratory Birds	If an active nest becomes established (i.e., there are eggs or young in the nest), avoid work that could result in abandonment or destruction of the nest until the young have fledged or the nest is unoccupied. Avoid construction activities that may displace birds after they have laid their eggs and before the young have fledged, if possible.	See comment response 16 above
19	Migratory Birds	The Chilkat watershed is home to many “species of concern” such as marbled murrelets (<i>Brachyramphus marmoratus</i>), Queen Charlotte goshawks (<i>Accipiter gentilis laingi</i>), olive-sided flycatchers (<i>Contopus cooperi</i>), varied thrushes (<i>Ixoreus naevius</i>), and rufous hummingbirds (<i>Selasphorus rufus</i>). These species are on one or more “watch lists” for declining populations, and are vulnerable to habitat loss, environmental contaminants, and threats during the breeding season or at other critical times throughout the year. The Service recommends project proponents avoid disturbing habitats these species rely on to the maximum extent possible.	Comment Noted. DMLW has provided these recommendations to the application.
20	Fish	Streams are an integral constituent of freshwater aquatic habitats and provide a variety of fish habitat, including migration corridors, resting, feeding, spawning, rearing, and over-wintering. Retaining the biologic and hydrologic integrity of streams is essential to conserving the Chilkat watershed’s fish species and their habitats. In addition to the following conservation measures, projects proposing in-stream and river work may require authorization from other agencies including the Alaska Department of Fish and Game (ADF&G), the Army Corps of Engineers, and the National Marine Fisheries Service.	Comment Noted. The Alaska Department of Natural Resources manages the Haines State Forest RMA with the goal of maintaining and enhancing the fish and wildlife resources that support commercial, recreational, and subsistence activities in the Haines Area. DMLW’s adjudication of the proposed activities has taken a careful and reasoned review of the potential impacts to streams within the project area and included agency consultation with the Alaska Department of Fish and Game’s fish habitat subject matter experts.

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21	Fish	<p>Use screened intake for water withdrawals. Appropriate screening prevents suction entrapment and entrainment injury to small and juvenile fish present in the area of the withdrawal. The ADF&G Habitat Division Technical Report No. 97-8 (https://dot.alaska.gov/stwddes/research/assets/pdf/tr_97_08.pdf) contains additional information on screening criteria for various species and life stages of fish as well as methods for design and fabrication of cylindrical water intakes.</p>	<p>Comment Noted. DMLW has included the following stipulation as a term of the issued Land Use Permit. "In any fish bearing waters, each water intake structure shall be centered and enclosed in a screened box designed to prevent fish entrapment, entrainment or injury. The effective screen opening may not exceed ¼ inch. To reduce fish impingement on screened surfaces, water velocity at the screen/water interface may not exceed 0.5 feet per second when the pump is operating." Smaller screen sizes may be required by ADFG's issued Fish Habitat Permit.</p>
22	Fish	<p>To prevent bank erosion and maintain natural velocities, bank stabilization and/or restoration practices should follow bioengineering techniques to the maximum extent practicable (e.g., root wads and bundled water tolerant willows). The use of sheet pile, riprap and rock should be avoided. See ADF&G's Streambank Revegetation and Protection guide for more information on recommended site specific techniques.</p>	<p>Comment Noted.</p>
23	Fish	<p>Maintain a minimum 200-foot setback from waterways when storing hazardous or toxic material.</p>	<p>Comment Noted. The applicant must follow all applicable state, federal, and local laws regarding storage of hazardous materials.</p>
24	Fish	<p>Containers with an aggregate storage capacity of greater than 55 gallons that contain fuel or hazardous substances should not be stored within 100 feet of a waterbody or within 1,500 feet of a current surface drinking water source.</p>	<p>Comment Noted. DMLW includes the following as a standard stipulation in Miscellaneous Land Use Permits for Hardrock Exploration: "Storing containers within 100 feet of water bodies. Containers with a total capacity larger than 55 gallons which contain fuel or hazardous substances shall not be stored within 100 feet of a water body."</p>
25	Fish	<p>During equipment use, storage, or maintenance, ensure that the site is protected from leaking or dripping fuel and hazardous substances by the placement of drip pans or other surface liners designed to catch and hold fluids under the equipment, or by creating an area for storage or maintenance using an impermeable liner or other suitable containment mechanism.</p>	<p>Comment Noted. While a best practice for storage and maintenance operations, drip pans or surface liners are not required by the terms of the issued Land Use Permit. The applicant must follow all applicable state, federal, and local laws regarding spills or releases of hazardous substances from equipment.</p>
26	Fish	<p>During fuel or hazardous substance transfer, ensure that a secondary containment or a surface liner is placed under all container or vehicle fuel tank inlet and outlet points, hose connections, and hose ends. Appropriate spill response equipment, sufficient to respond to a spill of up to five gallons, should be on hand during any transfer or handling of fuel or hazardous substances.</p>	<p>Comment Noted. DMLW includes this language as a standard stipulation in Miscellaneous Land Use Permits for Hardrock Exploration.</p>

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27	Bats	The project area is located within the known range of at least three bat species: little brown myotis (<i>Myotis lucifugus</i>), western long-eared myotis (<i>Myotis evotis</i>), and silver-haired bat (<i>Lasiurus noctivagus</i>). Bats use a variety of habitat types but are typically associated with forests and woodlands. Roosting sites, particularly maternity roosts and hibernacula, are especially important and may include buildings, trees, rock piles, and caves and crevices. The Service recommends the following conservation measures for bats within the action area:	Comment Noted. The proposed activities include limited forest clearing. DMLW has forwarded this comment and recommendations below to the applicant.
28	Bats	Avoid disturbing or destroying known or suspected bat roosts, especially when likelihood of use is high (e.g., maternity, day, and night roosts in the active season and hibernacula during the winter).	See comment response 27 above.
29	Bats	Bat distribution, seasonal activity patterns, and the timing of reproduction are all poorly documented throughout much of Alaska. Collecting and reporting bat observations will help improve our understanding of bats in the state. documentation of the following information:	See comment response 27 above.
30	Bats	Specifically, we encourage documentation of the following information: o Groups of three or more bats (either flying or roosting). This may indicate high quality foraging habitat, a nearby maternity roost (May to mid-July), or a nearby migration stopover or overwintering area (August to September). Observations of bats from late fall (October to November) to early spring (March to April). This will help us determine if bats are migrating or overwintering locally.	See comment response 27 above.
31	Invasive Species	Invasive species are one of the greatest threats to native biodiversity and are a significant driver of native species loss worldwide. Alaska is particularly vulnerable to the expansion of invasive species because of rapidly changing habitat caused by shifting weather conditions, altered hydrologic regimes, and increasing urban and natural resource development. The following measures aim to prevent the introduction and spread of invasive species within the action area.	Comment Noted. DMLW has stipulated that Constantine follow the project's existing invasive species management plan that was reviewed and approved by BLM.
32	Invasive Species	Equipment should arrive and leave the project clean without visible soil clumps, plant, or animal material.	See comment response 31 above.
33	Invasive Species	Equipment washing should occur at the same location during project operations; this site should then be surveyed regularly and treated as necessary. Do not clean equipment in or near waterways as it may promote the spread of invasive plant species downstream.	See comment response 31 above.

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34	Invasive Species	Identify locations of known invasive plant infestations and avoid infested areas to the extent possible. Visit http://aknhp.uaa.alaska.edu/botany/akepic/ to view infestations in your area. If not possible, consider the seasonality of the work to minimize the operations when invasive species seeds or would be viable and readily moved.	See comment response 31 above.
35	Invasive Species	Re-vegetate bare soils as soon as feasible to minimize the possible establishment of invasive plant species.	See comment response 31 above.
36	Invasive Species	Use certified invasive-free materials.	See comment response 31 above.
37	Topsoil	The following conservation measures will help project proponents minimize some of the potential impacts caused by topsoil removal to improve the chances of successful revegetation or restoration of the project site.	Comment Noted. Mine Reclamation performance standard regulation 11 AAC 97.200(a)(2) requires that "(2) If topsoil from an area disturbed by a mining operation is not promptly redistributed to an area being reclaimed, a miner shall segregate it, protect it from erosion and from contamination by acidic or toxic materials, and preserve it in a condition suitable for later use". Constantine's submission/ reclamation plan discusses the storage and reuse of topsoil for both access construction and at the drill sites. In addition, DMLW has included in depth topsoil/overburden muck/organic material "duff" reclamation stipulations as a term of the issued Land Use Permit.
38	Topsoil	Plan to sequence construction activities such that existing surface vegetation can initially be removed, followed by grubbing roots of trees (unless whole trees are needed for root wad work in stream restoration) and blading remaining organic and topsoil layers for stockpiling for reclamation.	See comment response 37 above
39	Topsoil	Salvage and re-spread topsoil concurrently with construction, when possible, to ensure topsoil is used in similar habitats.	See comment response 37 above
40	Topsoil	When spread, redistribute topsoil to a uniform and stable thickness and protect it from compaction and erosion wind and water until vegetation is established.	See comment response 37 above
41	Topsoil	Salvage the maximum amount of organic material and topsoil practicable, even during winter construction, and store separately (e.g., away from other overburden) for use during reclamation.	See comment response 37 above
42	Topsoil	Salvage the organic and topsoil layers and stockpile separately. At sites where the organic (O) and topsoil (A) layers are hard to distinguish or are very limited, we recommend salvaging the uppermost 6 inches of the soil profile.	See comment response 37 above

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43	Topsoil	If topsoil cannot be applied immediately, it should be stockpiled separately from subsoil and labeled as topsoil for use later in reclamation.	See comment response 37 above
44	Topsoil	We recommend direct hauling of topsoil from the salvage location to a site prepared for reclamation. Direct hauling increases the viability of native seeds and propagules in the salvaged topsoil by allowing them to begin reestablishment as soon as site conditions permit.	Comment noted. Direct haul technique is not required by this project. The applicant proposes small stockpiles and berms of charged (seed banked) overburden and topsoil near the area of disturbance. The short term overburden berms and stockpiles are not likely to have significant loss of banked seed viability as may be seen with large topsoil stockpiles. In the event that erosion control revegetation is quickly needed, the applicant will utilize the approved seed mix.
45	Topsoil	If topsoil is stored for more than one growing season, where practicable, use topsoil for interim reclamation by spreading it over cut and fill areas, around outer boundaries of facilities, embankments, and drainage ditches.	See comment response 37 above.
46	Topsoil	Stockpiled materials that will not be used within the first year should be placed on a stable area, labeled as topsoil, left undisturbed and protected from the elements by seeding it with an interim seeding mix	See comment response 37 above.
47	Erosion Control and Revegetation	The Service provides the following recommendations with the goal of maintaining self-sustaining functioning habitat for fish, wildlife, and their habitats before, during, and after project development.	Comment Noted.
48	Erosion Control and Revegetation	Recontour slopes to blend with surrounding topography; consider using waterbars or contour furrowing on steeper slopes (http://www.dot.alaska.gov/stwddes/desenviron/assets/pdf/bmp/bmp_11_00.pdf).	Comment Noted. Mine Reclamation performance standard regulation 11 AAC 97.200(b) requires that "A miner shall reclaim an area disturbed by a mining operation so that the surface contours after reclamation is complete are conducive to natural revegetation or are consistent with an alternate post-mining land use approved under AS 27.19.030 (b) on state, federal, or municipal land, or with the post-mining land use intended by the landowner on private land. Measures taken to accomplish this result may include backfilling, contouring, and grading, but a miner need not restore the site's approximate original contours. A miner shall stabilize the reclaimed site to a condition that will retain sufficient moisture for natural revegetation or for an alternate post-mining land use approved under AS 27.19.030 (b) on state, federal, or municipal land, or for the post-mining land use intended by the landowner on private land."
49	Erosion Control and Revegetation	We recommend strategic placement of root wads, large logs, or rocks after seeding, to provide topographical relief, increase habitat complexity, and provide micro-climates for the re-establishment of plant species (https://www.adfg.alaska.gov/static/home/library/pdfs/habitat/98_03.pdf).	Comment Noted. The applicant has proposed return topsoil and woody debris to reclaimed access trails and drill sites.

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50	Erosion Control and Revegetation	Create surface roughness to help control surface water runoff and reduce sedimentation (http://www.dot.alaska.gov/stwddes/desenviron/assets/pdf/bmp/bmp_30_00.pdf).	Comment Noted.
51	Erosion Control and Revegetation	Use native, weed-free seed (preferably locally collected) specific to the habitat type, applied at specified rates, and cover the seed to specified depth.	Comment Noted. The applicant has consulted with the Alaska Department of Natural Resources, Division of Agriculture (Plant Material Center) to craft a suitable seed mix for erosion control revegetation. This mix has also been approved by Haines State Forest staff and DMLW for this project.
52	Erosion Control and Revegetation	Interim seeding may be necessary to keep topsoil viable, control erosion, reduce surface runoff, and maintain other habitat characteristics	Comment Noted. Due to the limited duration of proposed activities, interim seeding is not anticipated.
53	Erosion Control and Revegetation	Use tackifier, mulch, or other bonding agents to keep seed in place (http://www.dot.alaska.gov/stwddes/desenviron/assets/pdf/bmp/bmp_56_00.pdf).	Comment Noted.
54	Erosion Control and Revegetation	After final grading and before replacing topsoil and other segregated materials, the regraded land should be ripped to promote root penetration.	Comment Noted. DMLW anticipates that there will be limited soil compaction concerns requiring ripping prior to placement of topsoil/charged (dormant seeded) overburden veneer and woody debris.