



United States Department of Agriculture
Forest Service

Moon Lake Boat Ramp

Environmental Assessment and Finding of No Significant Impact

Duchesne Ranger District, Ashley National Forest, Duchesne County, Utah
September 2014



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Photo of Moon Lake taken by Ron Brunson – Duchesne Ranger District.

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Introduction

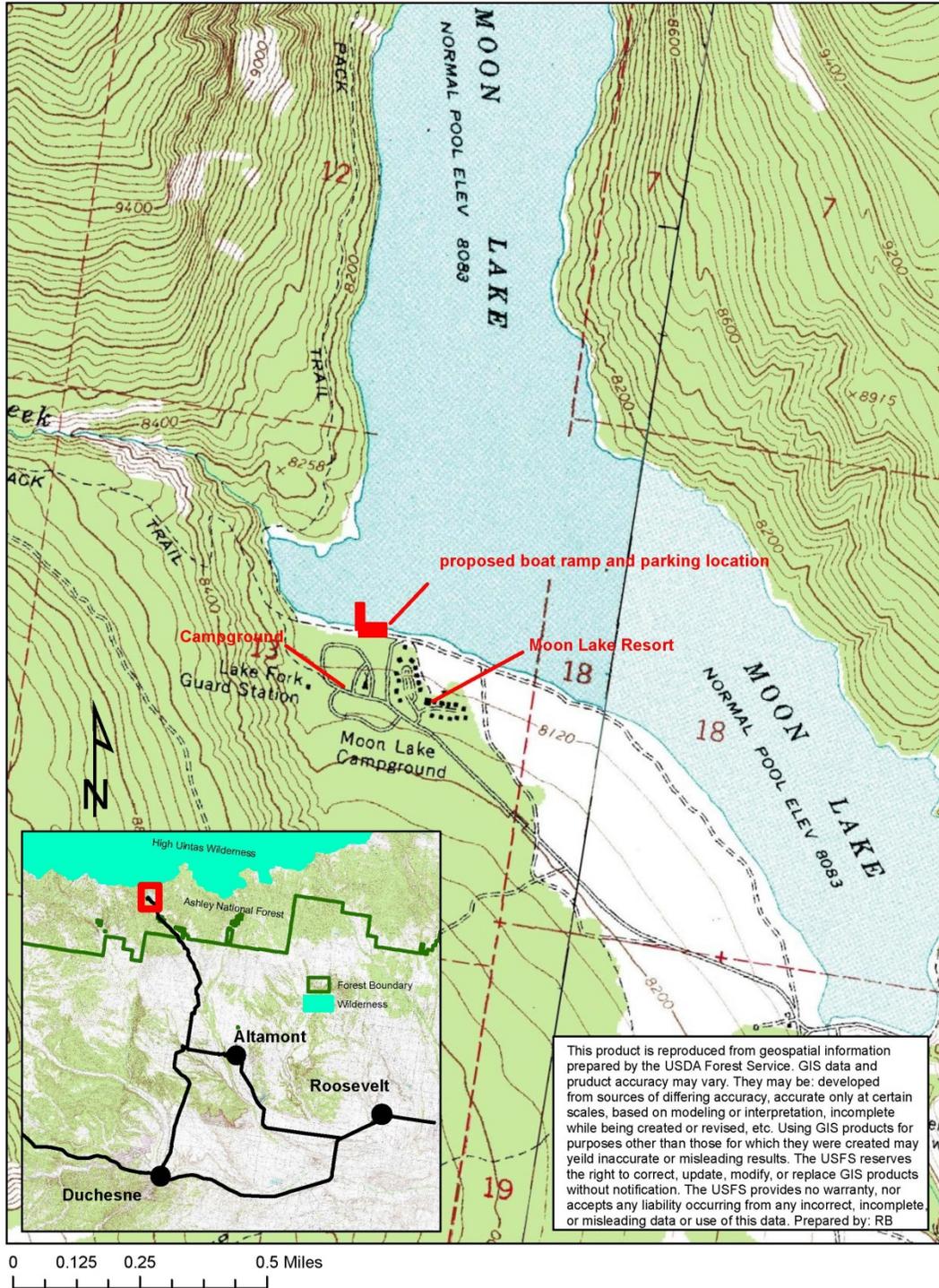
The Forest Service is proposing to construct a concrete boat ramp on the southwest shore of Moon Lake. These actions are proposed to be implemented on the Duchesne Ranger District of the Ashley National Forest.

The Forest Service prepared this environmental assessment (EA) to determine whether implementation of the construction of the boat ramp and associated parking area may significantly affect the quality of the human environment and thereby require the preparation of an environmental impact statement. By preparing this EA, we are fulfilling agency policy and direction to comply with the National Environmental Policy Act (NEPA). For more details of the proposed action, see the Proposed Action and Alternatives section of this document.

Proposed Project Location

The project area is located on the southwest shore of Moon Lake in the Lake Fork drainage of the Duchesne Ranger District, located approximately 35 miles north of Duchesne, Utah. Moon Lake is accessed by taking Highway 87 north out of Duchesne, continuing to State Route 134 junction toward Mountain Home and continuing north to the Forest boundary and Forest Service Road 131 (see Figure 1). Section 13 T. 2 N. R. 12 E.

Figure 1. Vicinity map of the proposed Moon Lake boat ramp.



Need for the Proposal

This proposal is needed because the current conditions in the boat launching areas make it difficult or impossible to launch boats at lower water levels. At lower lake levels, the launch area consists of soft sand and mud. As a result, the area becomes extremely rutted and launch vehicles often become stuck. The constructed concrete boat ramp will allow boaters access to Moon Lake at lower water levels and reduce or eliminate resource damage to adjacent beach areas as a result of launch vehicles rutting the area or getting stuck in the soft sand and mud. Once completed, the boat ramp and parking area would improve public safety.

Consistency with the Forest Plan and Other Laws and Regulations

This proposed project is consistent with the Ashley National Forest Land and Resource Management Plan and is expected to meet the following Forest-wide standards and guidelines, and Management Area direction:

Recreation - Page IV- 17 - 18 of the Ashley LRMP Objective 6. Provide areas and opportunities for all types of recreation user experience.

The proposed project area including Moon Lake and the area of the proposed boat ramp and parking area construction are located within Management Area n (Ashley LRMP FEIS B-24).

Applicable laws include section 404 of the Clean Water Act and applying for a permit through the Army Corp of Engineers for placing fill material within the lake basin.

Utah State Parks and Recreation has the authority to zone a waterway and enforce boating laws in the State of Utah. At the recommendation of a managing authority, the Utah State Parks board zones waterways across the state. This project proposes to restrict motor boat travel to reduce potential noise from the anticipated increase in motor boat use as a result of improved access. Applicable administrative rules for zoned waterways include R651-205 Zoned Waters and R651-205-1 Obeying Zoned Waters.

Tribal and Public Involvement

This proposal was listed in the Schedule of Proposed Actions on September 17, 2012. The proposal was provided to the public and other agencies for comment during scoping April 24 – May 24, 2012. A public notice requesting scoping comments was published in the Uintah Basin Standard April 24, 2012. Scoping letters were mailed to 64 individuals and agencies.

Those responding to the scoping letter included Moon Lake Resort Inc. and Duchesne County Commission. Both Moon Lake Resort Inc. and Duchesne County Commission provided comments in support of the proposed project. A scoping letter was sent to the Ute Tribe and no response was received.

The Forest Service consulted the following Federal, State, tribal, and local agencies during the development of this EA:

Ashley National Forest Service

Duchesne County Commissioners

Moon Lake Water Users Association

U. S. Bureau of Reclamation

Utah Division of Water Rights

Utah Division of Wildlife Resources

Utah Division of Parks and Recreation

Proposed Action and Alternatives

The no action alternative, proposed action and an additional action alternative were considered:

Alternative 1 – No Action Alternative

A boat ramp or parking lot would not be constructed under the No Action Alternative. The conditions of the current primitive boat launch area would continue to make launching a boat difficult when lake levels are low. The current parking area would remain as a primitive dirt parking area.

Alternative 2 – Proposed Action – No Wake

The Duchesne District of the Ashley National Forest proposes to construct a concrete boat ramp and paved parking area on the southwest shore of Moon Lake at the existing primitive launch and parking area. This construction would occur during the late summer and fall of the year and as early as 2015.

The proposed concrete boat ramp would be approximately 800' long by 20' wide and include 85' x 85' wide turnaround areas every 200' including at the top of the ramp. The parking area dimensions would be approximately 290' long by 92' wide. The construction of the proposed boat ramp and parking area would be completed by a contractor. The total area of disturbance for the ramp and parking area would be approximately two acres.

This proposed action would also include a lake travel restriction of No Wake for all boats using Moon Lake.

Alternative 3 – Maximum 25-horsepower Motor Size

This alternative is identical to the Proposed Action with the exception of a maximum 25-horsepower restriction for all boats would be implemented instead of the No Wake travel restriction.

Design Criteria Common to Both Action Alternatives

- Silt fencing, straw wattles or other erosion control measures would be employed to prevent sediment delivery to the lake from the construction site.
- Because the proposed project involves ground disturbing activities, Forest Service and federal regulations require that if previously unknown cultural resources are discovered during project activities or construction, they must be immediately reported and all activities within 150ft of the discovery must be halted until authorized to continue by the District Ranger.
- Appropriate signing to indicate heavy truck traffic on Forest Service Road 131 and flagging of the construction area would minimize potential effects to public safety.
- All construction equipment would be clean and inspected to ensure noxious weeds are not brought onto the Forest or introduced to the construction site.
- Coordination and permitting must be obtained from the Army Corps of Engineers before any action alternative may be implemented. Regional contacts at USACE are Hollis Jenks and Tim Whitman 801 524-6890.
- During construction phase of the parking area adjacent to the lake, employ silt fencing, straw wattles or other erosion control measures to prevent sediment delivery from the construction site into the lake pool and use a seed mix approved by Forest Ecologist for revegetating disturbed sites post-construction. Apply in a manner as per ecologist recommendation.
- In order to reduce the risk of fuel, oil, or other fluids spilling into water bodies during construction, a spill prevention kit should be onsite when heavy equipment is being operated below the high waterline of the lake pool.

Comparison of Alternatives

| | Indicator | Alternative 1 – No Action | Action Alternatives – 2 & 3 No Wake – 25-horsepower |
|--|---|---|--|
| Recreation Opportunity & Experience | Access to current boat launch and parking area. | There would be no closure – current launch and parking conditions would continue | Current boat ramp and parking area would be closed to the public during construction activities. |
| | Noise and disturbance from construction activity | No – However, there is currently noise and disturbance resulting from the recreating public in the area. | There would be noise and disturbance associated with construction activities. |
| | Condition of beach and launch areas – improved boater access, beach and shoreline condition | The current primitive launch and parking conditions would continue. Beach and shoreline conditions would continue to be negatively impacted, especially as lake levels draw down. | Beach and shoreline conditions are expected to improve as boat launching becomes focused on the hardened launch area and a designated hardened parking area becomes available. |
| | Noise and disturbance from increased boat use resulting from improved access | Boat use, including associated noise and disturbance, would be expected to remain at current levels. | Level of boat use could potentially increase as a result of improved access. However, noise levels would likely be less than currently occurs following implementation of proposed lake travel restrictions. |
| Hydrology – Water Quality | Change in type or level of boat use | Current processes affecting water quality would continue | Would not pose a detectible difference to water quality |
| Aquatic Species | Change in type or level of boat use | Current type and level of use would continue which includes the use of any boat able to launch | Potential for increased boat use but would not result in a detectible difference in effects to fishery |
| Terrestrial Species | Noise and disturbance from construction activity | No – However, there is currently noise and disturbance resulting from the recreating public in the area. | Yes – Noise and disturbance from construction activity would occur in addition to noise from the public recreating in the campground, resort, lake and beaches. |
| | Noise and disturbance from increased boat use | Boat use, including associated noise and disturbance, would be expected to remain at current levels. | Implementation of the proposed lake travel restrictions would likely result in less noise disturbance than what currently occurs. Increased boat use would likely be negligible. |

Environmental Impacts of the Proposed Action and Alternatives

This section summarizes the potential impacts of the proposed action and alternatives for each impacted resource. Additional and more detailed information is contained in the project record and includes specialist reports, and the biological assessment and evaluation among others. The following is a shortened narrative of those documents.

Recreation

Affected Environment

Moon Lake is located in the Lake Fork drainage and is operated by Moon Lake Water Users Association to provide water to downstream irrigators. The Lake Fork River is the primary tributary with the inlet to the lake on the north end and the outlet through the dam on the south end. Other tributary streams include Fish Creek which enters on the east side and Slate Creek which enters from the west. Because the lake is used for irrigation, water level fluctuates annually with the demand for water. This lake drawdown can result in ten to forty feet of saturated shoreline above the water's edge.

The fishery of Moon Lake is managed by the Utah Division of Wildlife Resources to provide recreational sportfishing. The lake is stocked annually with rainbow trout (*Oncorhynchus mykiss*), tiger trout (*Salmo trutta x Salvelinus fontinalis*) and splake (*Salvelinus namaycush x Salvelinus fontinalis*).

The Moon Lake campground is highly developed with flush restrooms, running water, fire rings, tables and paved camp sites. It is the most popular of the Ashley Forest's 17 campgrounds and group sites consisting of over 15,000 visitor days/year annually on the south slope of the Uintas. The primary reason for its popularity is its traditional use and proximity to the lake. The campground is located directly west and adjacent to the area proposed for construction of the boat ramp and parking area. This campground was closed during the 2012 season in order to complete a million dollar plus renovation. This work was completed in October 2012 and the campground was reopened for the 2013 season.

The Moon Lake Resort is located on the west shore and abuts the developed campground. The owner of the resort rents a variety of small boats to the public including 14' fishing boats, pedal boats and kayaks. The boat rental operation is located on the beach adjacent to the resort lodge.

Currently, the majority of motor boat use on Moon Lake is small to medium sized fishing boats (12' – 16'). There is currently no lake travel restrictions on Moon Lake related to the size or type of boat using the lake. Typically, there are 10 – 20 boats/day that use Moon Lake during the peak recreation season from June 15 – August 15 (Reardon 2012 personal communication). The estimated boating use for Moon Lake is 600 boating days/year. Half of this use is from boat rentals from the Moon Lake Resort.

Direct and Indirect Effects

The analysis area for effects to recreation includes Moon Lake, the Moon Lake Recreation Area, campgrounds, Moon Lake Resort and Forest Service Road 131 in Lake Fork Canyon leading to the Moon Lake area. The analysis area is selected because it is the area that would be affected by construction activities including the hauling of necessary material for the construction of the boat ramp and parking area. This analysis area also encompasses the area affected by the potential increase in boater use of the lake.

No Action

Current conditions for recreational opportunities would remain as a result of the No Action Alternative, which would include no restrictions on boat size or speed and motor boat access to Moon Lake as lake levels and conditions allow. Poor boat launching conditions would continue as the lake level drops throughout the summer recreation period, resulting in vehicles getting stuck in the mud occasionally.

Proposed Action – No Wake

The primary effect related to recreation from the proposed construction of a boat ramp and parking area is the potential increase in use or change in type of motor boats using Moon Lake. Effects to recreation would be relatively the same for both action alternatives.

Another effect for consideration is construction activities. However, construction activities for the boat ramp and parking area would avoid the peak recreation period and occur late in the season when the lake level is low. Visitation by the recreating public has begun to decline during this part of the season. This would minimize effects of construction activities on recreationists. Following the construction of the boat ramp and parking area, the use of Moon Lake by boating anglers would likely increase.

The construction of the boat ramp and parking area is anticipated to take approximately three months to complete and would need to be completed during the summer and early fall. This is a time when lake levels are lowest and would allow adequate temperatures for paving and pouring concrete. There would be a temporary increase in traffic along the road to Moon Lake during construction. It would require just over 1,000 trips of loaded dump trucks on SR 134 and FSR 131 to Moon Lake to move approximately 15,000 yards of material (Table 1). Other construction vehicles, including various light trucks to transport personnel and heavy equipment required to build the parking area and boat ramp, would result in additional traffic. This would have an impact on recreating public including users of the campground, lodge, boat ramp and beach.

Table 1. Approximate material volumes and trips needed to move material to the Moon Lake boat ramp construction location.

| | Concrete (ft²) | Asphalt (ft²) | Road Base (yards) | Riprap (yards) | Fill ramp and parking(yards) | Total |
|------------------------------|--------------------------------------|-------------------------------------|------------------------------|---------------------------|---|--------------|
| Ramp | 33,858 | | 414 | 1300 | 11,700 | |
| Parking | | 27,494 | 509 | | | |
| Under Riprap | | | 314 | | | |
| Total ft³ | 16,929 | 13,747 | | | | 30,676 |
| Total yds³ | 627 | 509 | 1,237 | 1,300 | 11,700 | 15,373 |
| Trips | 63 | 51 | 82 | 87 | 780 | 1,063 |

In addition to the impacts to recreation from traffic, the boat ramp and parking area would need to be closed to the public during construction. This would require the public to access the lake and beach area from alternate locations.

Along with increased boat use on the lake, a slight increase in traffic along State Route 134 and Forest Service Road 131 to Moon Lake is expected in response to the improved boat access facilities. This increase is not expected to be noticeable as it is not expected to be more than an additional one or two boats per day.

Implementation of the “No Wake” travel restrictions would result in less noise effects to visitors than what is currently allowed. Additionally, less noise effects are expected as a result of the “No Wake” alternative compared to the “25-horsepower maximum” alternative. The “25-horsepower maximum” restriction would still allow smaller motors to operate at higher speeds and RPMs than would occur with a “No Wake” restriction.

Alternative 2 – Maximum 25-horsepower Motor Size

The effects of this alternative are very similar to the effects of the Proposed Action with the exception that motors of 25-horsepower or smaller would be allowed to operate at any speed. Boat operation at higher speeds and RPMs would produce higher noise levels than that allowed under the No Wake travel restriction. All other effects to recreation would be the same.

Cumulative Effects

The cumulative effects area for Recreation is the Moon Lake Recreation area including the lake, campgrounds and Moon Lake Resort. This area was selected as the cumulative effects area for recreation, because the area is large enough to capture effects that may cumulatively affect recreation. The time period in which cumulative effects would occur would be the time during construction of the boat ramp and parking area in the late

summer and early fall. This is the time that noise disturbance and construction activity would occur.

Summary of Effects

The proposed action to construct a boat ramp and parking area at Moon Lake to improve access and reduce impacts to surrounding beach areas would require the temporary closure of the construction area to the public. Once complete, the newly constructed boat ramp and parking area would likely result in the increase and potentially change the type of water craft use on Moon Lake. The proposed lake travel restriction of “No Wake” or “Maximum 25-horsepower” is expected to reduce the amount of noise disturbance and shore wave action. The paved surface of the constructed boat ramp would eliminate or minimize vehicles becoming stuck as well as identify a managed area for launching boats which would greatly reduce impacts to surrounding beach areas and benefit public safety. Therefore, it is determined that the proposed construction of a boat ramp and parking area at Moon Lake would have beneficial effects to recreation resources of Moon Lake and would not negatively effect the recreational experience of other users.

Wilderness

Affected Environment

The northern third of Moon Lake is surrounded by the federally designated High Uintas Wilderness Area. Although an area approximately 300 feet – ½ mile away from the high waterline has been mapped around this upper third of the lake, the potential effect of the proposed project on wilderness values is analyzed.

Environmental Consequences

No Action

Current conditions for wilderness values and characteristics would remain as a result of the No Action Alternative of not constructing a boat ramp and parking area, and no motor size or speed restrictions for lake travel. This would include the continuation of motor boat access to Moon Lake as lake levels and conditions allow.

Proposed Action – No Wake

In comparison to the No Action alternative, the proposed action would result in a reduction in noise, speed and disturbance by motor boats from what is currently occurring.

Because there may be an increase to the number of water craft on the reservoir, there may also be a change in the frequency and number of water craft seen from the wilderness on the reservoir. However, FS (Forest Service) Trail 061 (which parallels the lake and is approx. 300 feet away from the reservoir) is not located in the wilderness and the only view to the lake from beyond that point into the wilderness would be from approximately

three miles away along FS trail 123 on an elevation rise before Atwine Lake. Therefore, there would be very little impact to the wilderness experience.

Alternative 2 – Maximum 25-horsepower Motor Size

Similar to the Proposed Action, this option would potentially result in fewer boats using Moon Lake because boats with motors rated greater than 25 hp would not be able to legally access the lake. Because these smaller motors could operate at both higher speeds and full throttle, there would likely be more effects from noise and disturbance than that expected from the Proposed Action. However, because this reservoir is not located in the wilderness and the nearest location on a trail within wilderness where the lake could be viewed is approximately three miles away, no effects to wilderness values are expected.

Hydrology

Affected Environment

The project area lies within the Lake Fork River Watershed (Hydrologic Unit Code 1406000306). Moon Lake is a natural lake that has been augmented by a dam and is managed as a reservoir for irrigation and electric power generation. The dam was constructed in the late 1930s approximately one mile downstream of the natural lakebed. On topographic maps the full pool elevation is marked as 8,083 feet with 7.8 miles of shoreline and a surface area of 768 acres (Judd, 1997). Reservoir volume is 35,760 acre-feet¹ with a drawdown capacity of 15,610 acre-feet.

Water Quality -The most recent assessment by the Utah Division of Water Quality designates the Lake Fork Watershed as having water quality that fully supports all beneficial uses classes (UDWQ, 2010). No impaired water bodies exist within or adjacent to the project area.

Floodplains - No natural floodplains are present at the proposed locations for the boat ramp and parking area.

Adjacent to the proposed parking area and within the footprint of the boat ramp is the full-pool elevation of Moon Lake. The original floodplain for the Lake Fork River is within the current boundaries (and submerged by) the full-pool elevation of the Moon Lake Reservoir.

The river's functionality is largely governed by the management practices and storage capacity of the reservoir. The river's floodplain, where it existed, no longer functions as a natural floodplain.

As designed, installation of the proposed parking area and boat ramp would not have an effect on the extent of the lake pool or storage capacity of the reservoir.

¹ An acre-foot is a unit of volume used in the United States in reference to large-scale water resources, such as lakes and reservoirs. It is defined by the volume of one acre of surface area to a depth of one foot.

Wetlands - No wetland or riparian vegetation currently exists at the proposed locations for the boat ramp and parking area.

By the management of the reservoir, the terrain between the full-pool elevation and the low water elevation may become inundated. Due to these frequent and prolonged fluctuations in water level (many meters in depth), conditions along the lakeshore do not support riparian and wetland vegetation.

As such, all alternatives would result in no effect to wetland vegetation.

Municipal Watersheds - No local municipal watershed is located or connected with the project area.

The project area is located within source protection zones 3 and 4 of the municipal watershed for the town of Green River, Utah. The location of this municipal drinking water inlet is more than 200 miles downstream of the proposed boat ramp and parking construction area.

Due to the great distance and dilution from other contributing river systems between the project area and the municipal source inlet, over 200 miles downstream of the project area, any action alternative associated with the proposed project is not anticipated to have an effect on this municipal water system.

Direct and Indirect Effects

The analysis area for effects to hydrology and water quality includes the Lake Fork watershed from the headwaters within the High Uintas Wilderness downstream to its confluence with the Yellowstone River. The analysis area is selected because it is the area that affects water quality in the Lake Fork watershed and includes the area that would potentially be affected by activities of the proposed action alternatives.

No Action

Under the no action alternative conditions would exist as they are. Motorized boat use would occur, by way of unsurfaced access points to the lake. Visitor use patterns, including boat traffic, would not be expected to change. Conditions affecting water quality and water resources within the watershed would remain unchanged.

When analyzing the action alternatives for their effects to water quality and water resources no observable differences are expected over the No Action alternative.

Proposed Action – No Wake

Paving a designated parking area and creating a cement boat ramp 800' into the reservoir may provide a nominal reduction in shoreline erosion over the unpaved access routes to the shoreline, though this difference would be difficult to quantify. Along the southwest shore of Moon Lake are multiple access routes to the lakeshore, which would continue to exist even if a hardened boat ramp were constructed. Boat launching would be most concentrated at a developed boat ramp, if constructed. This would also minimize vehicles becoming stuck in soft portions of the receding water line. This difference would be of greater benefit to recreational users of watercraft, than to water quality.

An indirect effect of Alternative 2 may be a potential for increased motorized boat traffic on the lake. However, the no-wake stipulation would likely preclude the lake from use levels that often come with water skiing and traffic where no wake restrictions are present. Regardless of the level of increased boat traffic that might occur, it would not pose a detectable difference to water quality over the current condition.

Alternative 3 – Maximum 25-Horsepower Motor Size

Direct and indirect effects would be similar to the Proposed Action.

Similar to Alternative 2, a potential for increased motorized boat traffic on the lake is likely, although the stipulation limiting motor size to 25 horsepower would preclude the use of ski boats and other large boats. Regardless of the level of increased boat traffic that might occur, it would not pose a detectable difference to water quality over the current condition.

Cumulative Effects

The Moon Lake Dam and reservoir pool is the most dominant existing use for the hydrology and water resources in the project area. The dam and regulation of the reservoir has augmented the natural size of Moon Lake and has displaced riparian habitat from within the boundaries of the high water pool. Other uses adjacent to the lake include the Moon Lake Campground and Moon Lake Lodge on the western shore of the lake. The Moon Lake campground has recently undergone renovations to include improvements in road drainage and to the water and sewer systems which can be considered an indirect benefit to water resources. Hiking trails exist along east and western shorelines of the lake and a wilderness trailhead also exists nearby. The majority of the watershed above Moon Lake is a part of the High Uintas Wilderness Area.

Because both action alternatives would not result in a detectable difference to water quality over the current conditions there would be no cumulative effects to water quality from implementing the proposed project.

Aquatic Species

Affected Environment

The following information and associated tables list those aquatic species included in the analysis for this Environmental Assessment. Additional information is located in the project record in the individual Biological Assessment, Biological Evaluation, and specialists' reports.

Moon Lake is located in the Lake Fork drainage. The Lake Fork River is the primary tributary with the inlet to the lake on the north end and the outlet through the dam on the south end. Other tributary streams include Fish Creek which enters on the east side and Slate Creek which enters from the west.

The fishery of Moon Lake is heavily managed by the Utah Division of Wildlife Resources for recreational sportfishing. The lake is stocked annually with rainbow trout

(*Oncorhynchus mykiss*), tiger trout (*Salmo trutta x Salvelinus fontinalis*) and splake (*Salvelinus namaycush x Salvelinus fontinalis*). Kokanee salmon (*Oncorhynchus nerka*) were historically stocked in Moon Lake and a population of general small individuals is present in the lake. Moon Lake also supports wild-produced brook trout (*Salvelinus fontinalis*) and mountain whitefish (*Prosopium williamsoni*). The UDWR recently sampled the fish population of Moon Lake with the use of gillnets in July 2010. Sportfish species collected during this sampling include brook trout, splake, kokanee salmon, rainbow trout, mountain whitefish and tiger trout. Mountain whitefish were the most abundant sportfish species sampled, followed by brook trout, splake and rainbow trout. Other fish species collected in gillnets included mountain sucker (*Catostomus platyrhynchus*), speckled dace (*Rhinichthys osculus*) and mottled sculpin (*Cottus bairdii*). No cutthroat trout were collected during this sampling effort.

Direct and Indirect Effects

Federally listed threatened, endangered, candidate and proposed species

In January 2014, the USDI Fish and Wildlife Service provided a list of Threatened, Endangered, Proposed, and Candidate species for Duchesne and Uintah counties (USFWS, 2014). This list identifies four federally listed fish species that could be potentially affected by the Proposed Action. These include the Colorado pikeminnow, razorback sucker, humpback chub, and bonytail (table 2). These fish occupy large rivers in the Upper Colorado River Basin including the Yampa, Green, White, and Colorado Rivers. Each of these species are listed as endangered by the USFWS and currently do not occur within the Ashley National Forest (ANF). There is no suitable habitat in or near the project area. No water depletions from the Colorado River Basin would occur as a result of this project. Because of this, it was determined that the action alternatives to construct the proposed boat ramp would have “no effect” on the four Colorado River endangered fishes. There will be no further discussion on the four Colorado River endangered fishes.

Table 2. Federally listed threatened, endangered, candidate and proposed fish species analyzed for the proposed Moon Lake Boat Ramp project.

| Species | Scientific Name | Habitat or Populations Affected? |
|---------------------|---------------------------------|----------------------------------|
| <i>Fish</i> | | |
| Colorado pikeminnow | (<i>Ptychocheilus lucius</i>) | No |
| Razorback sucker | (<i>Xyranchen texanus</i>) | No |
| Humpback chub | (<i>Gila cypha</i>) | No |
| Bonytail | (<i>Gila elegans</i>) | No |

Forest Sensitive Species-

One fish and two amphibians are listed on the Regional Forester’s sensitive species list for the ANF (table 3). These include Colorado River cutthroat trout (*Oncorhynchus clarki pleuriticus*), boreal toad (*Bufo boreas boreas*) and Columbia spotted frog (*Rana luteiventris*).

Moon Lake does not contain a known Colorado River cutthroat trout population. Colorado River cutthroat trout populations in the Lake Fork drainage occur in the

tributary streams further up the drainage including the headwater basins. Because of this there is likely a small population of Colorado River cutthroat trout in Moon Lake. However, gillnet surveys conducted by the UDWR during June 2014 failed to collect any cutthroat trout. There are no known populations of boreal toad or Columbia spotted frog within or near the proposed project area. Because there are no known populations of Forest sensitive species within the project area or Moon Lake, the proposed project is expected to have No Impact on Colorado River cutthroat trout, boreal toad or Columbia spotted frog populations.

Table 3. Forest Service sensitive aquatic species analyzed for the proposed Moon Lake Boat Ramp project.

| Species | Scientific Name | Habitat or Populations Affected? |
|--------------------------------|--|----------------------------------|
| <i>Fish</i> | | |
| Colorado River cutthroat trout | <i>(Oncorhynchus clarki pleuriticus)</i> | No |
| <i>Amphibians</i> | | |
| Boreal toad | <i>(Bufo boreas boreas)</i> | No |
| Columbia spotted frog | <i>(Rana luteiventris)</i> | No |

Management Indicator Species

The Ashley National Forest identifies two aquatic Management Indicator Species (MIS) as indicators of Forest aquatic habitat conditions and trends. Cutthroat trout (*Oncorhynchus clarki*) and aquatic macroinvertebrates are indicators of aquatic habitat conditions including water quality. Because cutthroat trout are known to occur further upstream in the Lake Fork drainage and Moon Lake provides suitable cutthroat habitat, there is likely a small number of cutthroat trout in Moon Lake. Moon Lake also provides substrates and water quality suitable for aquatic macroinvertebrates.

Alternative 1 – No Action

In this alternative, the proposed boat ramp or parking area would not be constructed. The current primitive launching and parking area would continue to be used as lake water levels and shore launching conditions allow. Current habitat conditions for cutthroat trout and aquatic macroinvertebrates would remain as a result of the No Action Alternative. There would not be any soil disturbance or change in substrate composition for macroinvertebrates.

Alternative 2 – Proposed Action – No Wake

Cutthroat trout

There would be no measurable effects to cutthroat trout as a result of the action alternatives of the proposed project. The construction of a concrete boat ramp on the west shore of Moon Lake would improve access to the lake for boating anglers. This improved access may increase the number of angler hours on the lake which would likely increase the number of fish harvested but would not affect the overall aquatic habitat quality.

Therefore, the primary effect to fisheries resources of Moon Lake would be the increased harvest of fish as a result of increased use of the lake. The fishery of Moon Lake is maintained through annual stocking of rainbow trout, tiger trout and splake. Cutthroat trout were absent in the gillnetting effort conducted by UDWR in 2010. This indicates if cutthroat do occur in Moon Lake, they make up a very small component of the Moon Lake fishery. Cutthroat trout primarily occupy habitats further up the Lake Fork drainage in tributary streams and headwater basins. Therefore, increased harvest of fish from Moon Lake would have a negligible if any effect on cutthroat trout populations of the Lake Fork drainage.

Macroinvertebrates

Implementation of the proposed action would have direct effects to aquatic macroinvertebrate habitat in a localized area. During construction of the boat ramp, top layers of substrate including sand and some cobbles would be excavated to allow installation of concrete. The construction of the boat ramp would disturb and change the substrate used by macroinvertebrates in the immediate construction area once lake levels come back up but would not negatively affect the overall health of the aquatic ecosystem. Changing the substrate from sand to concrete and rip rap would increase the amount of substrate available to macroinvertebrates and would likely change the taxa present in the localized area but would not negatively affect water quality or macroinvertebrate populations of Moon Lake.

Alternative 3 – Maximum 25-horsepower outboard motor

Direct and indirect effects to aquatic MIS would be the same for both action alternatives because the effect of implementing travel restrictions of “no wake” or limiting the size of outboard motors to 25-horsepower or less would likely result in the same level of angling boaters using the lake. The potential indirect effect of increased harvest of sportfish would likely be the same whether the travel restriction was “no wake” or maximum 25-horsepower outboard motor. In addition, effects to aquatic macroinvertebrate assemblages and habitat would be the same for each action alternative because the construction that occurs in each alternative would result in disturbed soil and installation of concrete and rip rap in the localized construction area within the lake bed.

Cumulative Effects

The biggest impact to aquatic macroinvertebrate habitat occurs as a result of seasonal lake level fluctuation resulting from annual lake drawdown to meet irrigation water demands downstream. In addition, because there would be no measurable effects to macroinvertebrates as a result of constructing a boat ramp, there would be no cumulative effects for aquatic macroinvertebrates.

Because there would be no direct or indirect effects to cutthroat trout habitat, there would be no cumulative effects.

Terrestrial Species

Affected Environment

The ramp would be in the lake bed (sand and rock), so no terrestrial vegetation or wildlife habitat occurs at this location. Part of the proposed parking area is currently used as truck and trailer parking and is bare ground. The area of the proposed expansion is composed of some grass, a few shrubs, sand, and rock. Adjacent to the site there is some aspen stands, some lodgepole stands, scattered sagebrush and mountain brush, and grass/forbs. A few ponderosa pines occur at further distances. Since the lake fluctuates, there is very little riparian vegetation near the location of the project.

Direct and Indirect Effects

Federally listed threatened, endangered, candidate and proposed species

In January 2014, the USDI Fish and Wildlife Service provided a list of Threatened, Endangered, Proposed, and Candidate species for Duchesne and Uintah counties (USFWS, 2014). This list identifies three bird and three mammal species (Table 4). These included the western yellow-billed cuckoo, Mexican spotted owl, greater sage grouse, Canada lynx, wolverine and black-footed ferret. The greater sage grouse, western yellow-billed cuckoo, black-footed ferret and Mexican spotted owl do not have habitat in or ranges that extend into the proposed project area. Therefore, it was determined that this project would have “no effect” to these species. The project does not occur within lynx or wolverine habitat and it was determined that the project would have “no effect” to these species. Therefore, these species will not be discussed further.

Table 4. Federally listed threatened, endangered, candidate and proposed species analyzed for the proposed Moon Lake Boat Ramp project.

| Species | Scientific Name | Habitat or Populations Affected? |
|------------------------------|---|----------------------------------|
| Birds | | |
| Western yellow-billed cuckoo | <i>(Coccyzus americanus occidentalis)</i> | No |
| Mexican spotted owl | <i>(Strix occidentalis lucida)</i> | No |
| Greater sage grouse | <i>(Centrocercus urophasianus)</i> | No |
| Mammals | | |
| Canada lynx | <i>(Lynx canadensis)</i> | No |
| Black-footed ferret | <i>(Mustela nigripes)</i> | No |
| Wolverine | <i>(Gulo gulo)</i> | No |

Forest Sensitive Species

Fourteen species of mammals and birds are listed on the Regional Forester’s sensitive species list and are known or suspected to occur on the ANF (Table 5). These include spotted bat, Townsend’s big-eared bat, bald eagle, boreal owl, great grey owl, flammulated owl, three-toed woodpecker, northern goshawk, peregrine falcon, trumpeter swan, common loon, pygmy rabbit, bighorn sheep and mountain plover. Of these, six (spotted bat, Townsend’s big-eared bat, bald eagle, flammulated owl, three-toed woodpecker, and northern goshawk) have habitat near the project area, or are likely to occur within the project area, or likely to be affected by implementation of the proposed

action. Analysis of these six species has determined that the proposed action may impact individuals but would not cause a trend toward federal listing or cause a loss of viability to the population of these species.

Table 5. Forest Service sensitive terrestrial species analyzed for the proposed Moon Lake Boat Ramp project.

| Species | Scientific Name | Habitat or Populations Affected? |
|--------------------------|-----------------------------------|---|
| Birds | | |
| Bald eagle | <i>(Haliaeetus leucocephalus)</i> | Yes |
| Boreal owl | <i>(Aegolius funerus)</i> | No |
| Great gray owl | <i>(Strix nebulosa)</i> | No |
| Flammulated owl | <i>(Otus flammeolus)</i> | Yes |
| Three-toed woodpecker | <i>(Picoides tridactylus)</i> | Yes |
| Mountain plover | <i>(Charadrius montanus)</i> | No |
| Northern goshawk | <i>(Accipiter gentilis)</i> | Yes |
| Peregrine falcon | <i>(Falco peregrinus)</i> | No |
| Common loon | <i>(Gavia immer)</i> | No |
| Trumpeter swan | <i>(Cygnus buccinator)</i> | No |
| Mammals | | |
| Spotted bat | <i>(Euderma maculatum)</i> | Yes |
| Townsend's big-eared bat | <i>(Plecotus townsendii)</i> | Yes |
| Pygmy rabbit | <i>(Brachylagus idahoensis)</i> | No |
| Bighorn sheep | <i>(Ovis Canadensis)</i> | No |

Alternative 1 - No Action Alternative

Under this alternative, no action would occur. Therefore, there would be no impacts to terrestrial sensitive wildlife species, conditions would remain the same, and no further discussion under this alternative is warranted. All further discussion will be for the action alternatives.

Effects Common among Action Alternatives and Species

The placement of the boat ramp would be within the lake bed up to the high water line. No vegetation would be removed and no wildlife habitat would be removed. Therefore, there would be no impacts to sensitive species from the size or placement of the boat ramp. The only potential impacts to wildlife from construction of the boat ramp would be temporary noise from equipment used to complete the project.

Some habitat for the parking lot would be removed. However, the parking lot would be about 0.6 acres. Since a large portion of the proposed parking area is currently used for parking, the amount of vegetation that would actually be removed is considerably less than 0.6 acres. Also, the other portion of the proposed parking lot is sparsely vegetated with some grasses/forbs and a few shrubs. Therefore, vegetation removal would be very limited, and would be unlikely to have any measureable effects to any of the sensitive species or their habitats. Temporary noise from equipment used to construct the parking

lot may potentially impact sensitive species. Therefore, the discussion below will focus on the temporary noise effects to sensitive species from construction of the parking lot.

Limiting the size of motors or how fast boats can travel on the water would decrease the noise level from what currently occurs on the lake from motor boats. Although, the presence of a boat ramp may increase the amount of boats that use the lake, the noise level would be restricted under both action alternatives from what can currently occur, thus decreasing the amount of potential noise from boats.

Spotted Bat & Townsend's Big-eared Bat

Alternative 2 - Proposed Action – No Wake

As discussed earlier, the project would not directly affect habitat for either of these bat species. There may be temporary noise from equipment used to construct the boat ramp and parking lot which may disturb bats. However, there is a lack of information on the disturbance of bats from noise and human activities. Although, it is common knowledge that foraging bats frequent areas of human activity when there is a combination of water resources, forage resources, and or roosting habitat nearby. Construction activities are unlikely to occur during the time (late evening and night time) that these bats are foraging. Also, construction would occur during one summer season and would not produce any measureable effects to these bats once construction is complete. Additionally, the proposed construction of the boat ramp and parking lot are adjacent to a popular campground, a recreation resort, and popular recreational areas. If bats do use the area, they have likely become habituated to human activity.

The no wake restriction under this alternative would decrease the noise level that can currently occur on the lake from motorized boats. Although, the presence of a boat ramp may increase the amount of boats that use the lake, the noise level would be restricted under this alternative from what can currently occur, thus decreasing the amount of potential noise from boats. Thus, this would decrease the amount of noise to bats that may be using the area.

Based on the above rationale, noise from the temporary construction activities are unlikely to have much affect on foraging or roosting bats. Therefore, it is determined that the proposed project may impact individual spotted and Townsend's big-eared bats, but would not cause a trend toward their federal listing or cause a loss of viability to the populations of these species.

Alternative 3 – Maximum 25-horsepower motor

Potential impacts to these bat species under this alternative are the same as described under Alternative 2, with the following exception. The 25hp motor restriction would likely allow more noise produced from motorized boats in the long term than does the Proposed Action. However, since this restriction is still likely to reduce the level of noise that currently can occur from motorized boats, it is determined that the proposed project

under this alternative may impact individual spotted and Townsend's big-eared bats, but would not cause a trend toward their federal listing or cause a loss of viability to the populations of these species.

Bald Eagle

There have been no bald eagles documented or sighted within or near Moon Lake or near the project area. However, there have been a few bald eagles reported in adjacent drainages in recent years.

The bald eagle, though no longer federally listed under the Endangered Species Act is still federally protected by the Bald and Golden Eagle Protection Act as well as the Migratory Bird Treaty Act. The National Bald Eagle Management Guidelines were developed in 2007, and provide guidelines to minimize impacts to the bald eagle from land management decisions. The guidelines recommend project activities occur at least 660 feet from a bald eagle nest when there is a line of site visibility of the nest (USDI F&WS 2007).

Alternative 2 -Proposed Action – No Wake

The recent bald eagle sightings in adjacent drainages were most likely eagles that were migrating or passing through the area and there is no evidence to suggest that bald eagles are nesting in the area or anywhere on the District, including the Moon Lake area. Therefore, the proposed project would not affect nesting bald eagles and is unlikely to affect foraging bald eagles. Furthermore, since the likelihood of a bald eagle passing through the area during project implementation is rare, it is unlikely that foraging bald eagle would be affected by the any aspect of the project. Additionally, limiting boat speed to no wake would reduce the amount of noise currently allowed from motorized boats and may improve the quality of the area to bald eagles in the long term. Therefore, it is anticipated that project would have little to no affect to bald eagles and would comply with the 2007 bald eagle management guidelines. Therefore, it is determined that the proposed project may impact individual bald eagles, but would not cause a trend toward the federal listing or cause a loss of viability to the population of this species.

Alternative 3 – Maximum 25 horsepower motor

Potential impacts to the bald eagle under this alternative are the same as described under the Proposed Action Alternative, with the following exception. The 25 horsepower motor restriction would likely allow more noise produced from motorized boats than Alternative 2. However, since this restriction would likely reduce the level of noise that currently can occur from motor boats, it is determined that the proposed project under this alternative may impact individual bald eagles, but would not cause a trend toward the federal listing or cause a loss of viability to the population of this species.

Three-toed Woodpecker

This woodpecker has been found in lodgepole, Douglas fir, spruce/fir and mixed conifer on the Ashley National Forest (Ashley NF unpub. data). Woodpecker surveys have been conducted across the Forest, including habitat near the project area, documenting three-toed woodpecker occurrence on the Forest and near the project area (USDA Forest Service 2011c; USDA Forest Service 2006). Habitat for this species occurs near the project area.

Alternative 2- Proposed Action – No Wake

Since no trees would be removed, there would be no direct loss of three-toed woodpecker habitat (nesting or foraging) from activities associated with the proposed project. Temporary noise produced from construction of the boat ramp and parking lot has the potential to temporarily displace some individual three-toed woodpeckers from nearby habitat into suitable habitat further from project activities. However three-toed woodpeckers have been documented to be very tolerant of human activities, and human disturbance is not considered a threat to their populations (Leonard, 2001). Additionally, construction would be temporary and would not produce any measureable effects from temporary noise disturbance to this species. Furthermore, the proposed construction of the boat ramp and parking lot are adjacent to a popular campground, a recreation resort, and popular recreational areas. If three-toed woodpeckers do use the area, they have likely become habituated to human activity. Also, limiting boat speed to no wake would reduce the amount of noise currently allowed from motorized boats in the long term. Therefore, based on the above rationale, it is determined that the proposed project may impact individual three-toed woodpeckers, but would not cause a trend toward the federal listing or cause a loss of viability to the population of this species.

Alternative 3 – Maximum 25-horsepower motor

Potential impacts to the three-toed woodpecker under this alternative are the same as described under the Proposed Action Alternative, with the following exception. The 25hp motor restriction would likely allow more noise produced from motorized boats in the long term than does the Proposed Action Alternative. However, since this restriction is still likely to reduce the level of noise that currently can occur from motorized boats, it is determined that the proposed project under this alternative may impact individual three-toed woodpeckers, but would not cause a trend toward the federal listing or cause a loss of viability to the population of this species.

Flammulated Owl

Owl surveys have been conducted across the Forest and flammulated owls have been found in many of the drainages on the Forest (USDA Forest Service 2006, USDA Forest Service 2011c). Owl surveys were conducted in Lake Fork drainage, near the project area, as late as 2011, but no flammulated owls responded. However, responses were elicited in adjacent drainages. Flammulated owl habitat occurs near the project area.

Alternative 2 - Proposed Action– No Wake

There would be no direct loss of flammulated owl habitat (nesting or foraging) from activities associated with the proposed project because very little vegetation (negligible amount) and no trees would be removed. Noise produced from construction of the boat ramp and parking lot has the potential to temporarily displace some individual flammulated owls from nearby habitat into suitable habitat further from project activities. However, construction activities are unlikely to occur during the time (late evening and night time) that flammulated owls are foraging. Also, construction would be temporary and would not produce any measureable effects from temporary noise disturbance to this species. Additionally, the proposed construction of the boat ramp and parking lot are adjacent to a popular campground, a recreation resort, and popular recreational areas. If flammulated owls do use the area, they have likely become habituated to human activity. Also, limiting boat speed to no wake would reduce the amount of noise currently allowed from motorized boats. Therefore, based on the above rationale, it is determined that the proposed project may impact individual flammulated owls, but would not cause a trend toward the federal listing or cause a loss of viability to the population of this species.

Alternative 3 – Maximum 25-horsepower motor

Potential impacts to the flammulated owl under this alternative are the same as described under Alternative 2, with the following exception: the 25hp motor restriction would likely produce more noise from motorized boats than Alternative 2. However, since this restriction would likely reduce the level of noise compared to existing conditions, it is determined that the proposed project under this alternative may impact individual flammulated owls, but would not cause a trend toward the federal listing or cause a loss of viability to the population of this species.

Northern Goshawk

Nest areas are occupied from early March until late September, when fledglings are no longer dependent upon the post fledgling area (PFA) (Reynolds et al. 1993). The Goshawk Amendment to the Ashley National Forest plan also considers the nesting period to be this same period. According to Ashley National Forest monitoring data, young usually fledge from early July to early August (approx. 43 days of age) and are dependent upon the PFA until approximately 65 days of age (August – mid September), at which time the fledglings venture further away from the PFA (Dewey 1998, Dewey 1999a, Dewey 1999b).

There is one goshawk territory (Moon Lake territory) containing six nests that is near the project area. Two nest trees no longer exist, one nest has fallen, two have partially fallen, and one nest is still intact. Annual nest checks and calling surveys have found that this territory was last active in 2006 (USDA Forest Service 2011a, USDA Forest Service 2011b, and USDA Forest Service 2011c). The project area does not occur within either of the 30 acre nest areas or within the PFA. However, the project is adjacent to the PFA.

The Ashley National Forest (ANF) has been annually monitoring northern goshawks since 1991. The goshawk population trend across the Forest appears to be stable, with a slight decrease over the last three years. Based on these same monitoring reports, it appears that the Forest still supports a viable goshawk population and continues to provide well-distributed habitat across the Forest for this species (USDA Forest Service 2006; USDA Forest Service 2011c).

Alternative 2 -Proposed Action – No Wake

There would be no direct loss of goshawk habitat (nesting or foraging) from activities associated with the proposed project because no trees and very little vegetation (negligible amount) would be removed. Additionally, the project is not located in goshawk habitat and any surface disturbance would not affect goshawk habitat. There would be noise produced from construction of the boat ramp and parking lot which has the potential to disturb individual goshawks that may occur in the area. However, construction would be temporary and would not produce any measureable effects from temporary noise disturbance to this species once construction is completed. Additionally, the proposed construction of the boat ramp and parking lot are adjacent to a popular campground, a recreation resort, and popular recreational areas. The campground and resort are located between the project (edge of the lake) and the PFA. It is reasonable to assume that since the project is small in scale (approximately 2 acres) and since construction would occur during one late summer/fall season, the noise produced from construction of the parking lot and the boat ramp is unlikely to cause much more noise disturbance in the area than currently exists with the current level of recreation. Additionally, since the boat ramp would need to be constructed in the fall after the lake is drawn down, any noise produced from its construction would likely be outside the nesting period for goshawks. Furthermore, this goshawk territory has not been active for the last six years. If the territory remains inactive during construction, there would be no potential disturbance to this territory from the project. Also, limiting boat speed to no wake would reduce the amount of noise currently allowed from motorized boats in the long term, and thus reduce the amount of noise that boats currently produce in the area. This would reduce the amount of potential disturbance to this territory from motorized boats. Therefore, based on the above rationale, it is determined that the proposed project would comply with the intent of the goshawk Amendment to the Forest Plan. It is therefore determined that the project may impact individual goshawks, but would not cause a trend toward the federal listing or cause a loss of viability to the population of this species.

Alternative 3 – Maximum 25-horsepower motor

Potential impacts to goshawks under this alternative are the same as described under Alternative 2, with the following exception. The 25hp motor restriction would likely allow more noise produced from motorized boats in the long term than does The Proposed Action Alternative. However, since this restriction is still likely to reduce the level of noise that currently can occur from motorized boats, it is determined that the proposed project under this alternative may impact individual goshawks, but would not

cause a trend toward the federal listing or cause a loss of viability to the population of this species.

Cumulative Effects

The cumulative effects area for sensitive wildlife species is the Lake Fork river drainage from the wilderness boundary to the Forest Boundary. It is bounded by the Forest boundary on the south, the wilderness boundary on the north, and the ridge tops on the east and west. This area was selected as the cumulative effects area for these species, because the area is large enough to capture effects that may cumulatively affect wildlife. The time period in which cumulative effects would occur would be the time during construction of the boat ramp and parking in the late summer and early fall. This is the time that noise disturbance would occur.

The term “wildlife” in the below analysis refers to sensitive species. Cumulative impacts to wildlife within the cumulative effects area include past timber harvest, firewood gathering, grazing, roads, off-highway vehicle use, boating, camping, hiking, biking, hunting, fishing, horseback riding, sightseeing, wildlife viewing and noxious weeds.

Grazing may reduce forage resources available to these wildlife species and/or their prey, and can have a direct effect on these species habitat if it alters the structure and composition of native plant communities. Grazing practices in this area take wildlife needs into consideration, and ensure a residual amount of vegetation to be left for wildlife as well as retaining plant composition and structure. Therefore the effects to wildlife from grazing coupled with the proposed project would be negligible.

Timber harvest can directly affect wildlife habitat for the short term, by removing trees that provide foraging habitat and cover for some wildlife and their prey species. As the trees regenerate, habitat for wildlife increases in quality for a variety of species. Some timber harvest has occurred in the cumulative effects area. This timber harvest is now providing habitat for a variety of wildlife species, including sensitive species (northern goshawk, flammulated owl, three-toed woodpecker, spotted bat, and Townsend’s big eared bat). There is also a thinning project that will be thinning young dense stands of ponderosa pine in the lower end of the cumulative effects area. This purpose of this thinning is to improve wildlife habitat by reducing stand density, increasing growth and vigor of the stand, reducing catastrophic fire potential, and slowing down the self pruning process. Therefore the effects to these species from these past timber harvests and the thinning project coupled with the proposed project would be immeasurable.

Firewood gathering removes snags and down woody debris that provide habitat for a variety of wildlife species. Cavity nesters like the three-toed woodpecker and flammulated owl would lose some nesting trees and/or foraging habitat. Goshawk prey species may also be affected by the removal of downed woody debris. However, firewood gathering areas are restricted to certain areas of the District and within 300 feet of a road, and the amount of snags and down woody debris that would be gathered is minimal in comparison to surrounding habitat in these areas. Therefore the effects to these species from firewood gathering coupled with the proposed project would be

negligible. Species like the spotted bat, Townsend's big-eared bat, and bald eagle do not depend on down woody debris for their life requisites. Therefore these species would not be affected by this cumulative impact.

Cumulative impacts to wildlife such as off-highway vehicle use, boating, prospecting, camping, hiking, biking, hunting, fishing, horseback riding, sightseeing, and wildlife viewing contribute disturbance to wildlife and/or their prey species within. However, none of these activities would remove wildlife habitat. The main affect to wildlife from these activities is noise and human presence. Noise and human presence associated with these activities can displace wildlife to other areas of the cumulative effects area. However, these activities have been occurring in this area for decades. Wildlife would likely be either habituated to the activities or avoid the area where these activities occur. However, the construction portion of the project is during the late summer and early fall period (outside of the nesting season for these sensitive species). Also, limiting the speed and or the motor size on motor boats would decrease noise in the area in the long term. Therefore, combining the cumulative activities with the proposed project would not be measurable.

Roads fragment habitat and provide access for snowmobiles and backcountry skiers, which can disturb wildlife. However, these roads have been in this area for decades and wildlife would likely be either habituated to the roads and activities associated with roads or would avoid the area where these roads occur. Therefore the effects to wildlife from roads coupled with the proposed project would not be measurable. Winter activities such as snowmobiling and back country skiing do not occur during the same seasonal period as the proposed project, therefore the effects to wildlife from winter activities coupled with the proposed project would not be measurable.

Noxious weeds have the potential to alter habitats at both the local and ecosystem scale (Ruediger et al. 2000). This would, over time, affect habitat for wildlife. The Integrated Pest Management Program on the Forest addresses and implements a plan to eradicate or control noxious weeds. Therefore the effects to the wildlife coupled with the proposed project would be negligible.

SUMMARY

In summary, the Moon Lake Boat Ramp Project would have no impact to the boreal owl, great gray owl, peregrine falcon, common loon, trumpeter swan, pygmy rabbit, bighorn sheep, and mountain plover. However, the project may impact individual spotted bats, Townsend's big-eared bats, flammulated owls, bald eagles, three-toed woodpeckers, and northern goshawks, but would not cause a trend toward their federal listing or cause a loss of viability to their populations.

Direct and Indirect Effects

Management Indicator Species

The ANF identifies ten terrestrial Management Indicator Species (MIS) as indicators of Forest habitat conditions and trends (Table 6). These include the red-napped sapsucker, warbling vireo, northern goshawk, golden eagle, Lincoln's sparrow, song sparrow, sage

grouse, white-tailed ptarmigan, rocky mountain elk, and mule deer. Habitat for Lincoln's sparrow, song sparrow, greater sage grouse and white-tailed ptarmigan does not occur within or near the project area, and they will not be discussed further.

Table 6. Forest terrestrial Management Indicator Species (MIS) analyzed for the proposed Moon Lake boat ramp and parking area.

| Species | Scientific Name | Habitat Present in Project Area? |
|------------------------|---|---|
| <i>Birds</i> | | |
| Red-naped sapsucker | (<i>Sphyrapicus nuchalis</i>) | Yes |
| Warbling vireo | (<i>Vireo gilvus</i>) | Yes |
| Northern goshawk | (<i>Accipiter gentilis</i>) | Yes |
| Golden eagle | (<i>Aquila chrysaetos Canadensis</i>) | Yes. Cliffs are not present, but other habitat is present |
| Lincoln's sparrow | (<i>Melospiza lincolnii</i>) | No |
| Song sparrow | (<i>Melospiza melodia melodia</i>) | No |
| Greater sage grouse | (<i>Centrocercus urophasianus</i>) | No |
| White-tailed ptarmigan | (<i>Lagopus leucura</i>) | No |
| <i>Mammals</i> | | |
| Rocky Mountain elk | (<i>Cervus canadensis</i>) | Yes |
| Mule deer | (<i>Odocoileus hemionus</i>) | Yes |

The placement of the boat ramp would be within the lake bed up to the high water line. A limited amount of vegetation would be removed and no wildlife habitat would be removed. Therefore, there would be no impacts to terrestrial MIS and migratory birds from the size or placement of the boat ramp. The only potential impacts to wildlife from construction of the boat ramp would be temporary noise from equipment used to complete the project. The following discussion for terrestrial wildlife focuses on the temporary noise effects to MIS and migratory birds from construction of the boat ramp.

Following construction, limiting the size of motor or how fast boats can travel on the water would decrease the noise level from what can currently occur on the lake from motorized boat use. Although, the presence of a boat ramp may increase the number of boats using the lake at one time, implementation of lake travel restrictions as part of the action alternatives is intended to reduce the noise level from what can currently occur. This would reduce the amount of potential noise from motor boats. Noise reduction would be more for the "No-Wake" restriction than for the motor size restriction.

Alternative 1 - No Action

Under the No Action Alternative, existing conditions would not be altered. Physical and biological processes would continue. There would be no direct, indirect, or cumulative impacts to MIS, US F&WS Birds of Conservation Concern and Utah Partners in Flight Priority Species (Migratory Birds).

Alternative 2 - Proposed Action – No Wake

Since a very limited amount of vegetation would be removed to construct the parking area and the boat ramp would be constructed within the lake bed, there would be no direct loss of habitat for any terrestrial wildlife species. This includes federally listed threatened and endangered, candidate and proposed species, Forest Sensitive Species, Management Indicator Species, US F&WS Birds of Conservation Concern, and Utah Partners in Flight Priority Species.

Temporary noise produced from construction of the boat ramp and parking lot has the potential to disturb individuals of wildlife species that may occur in the area. However, this temporary noise would not produce any measurable effects to these species following construction. Additionally, the proposed construction of the boat ramp and parking lot are adjacent to a popular campground, a recreation resort, and popular recreational areas. The campground and resort are located between the project (edge of the lake) and terrestrial wildlife habitat. It is reasonable to assume that since the project is small in scale (approximately two acres) and since construction would only occur for during one late summer and early fall season, the noise produced from construction of the parking lot and the boat ramp is unlikely to cause much more noise disturbance in the area than currently exists. Additionally, since the boat ramp would need to be constructed in the fall after the lake is drawn down, any noise produced from its construction would be outside the typical nesting period for bird species. Also, limiting boat speed to no wake would reduce the amount of noise currently allowed from motorized boats, and thus reduce the current amount of noise that boats produce in the area. This would reduce the amount of potential disturbance to wildlife from motorized boats. Therefore, based on the above discussion, it is determined that the proposed project would not adversely affect terrestrial wildlife habitat, and would not affect the trend of terrestrial MIS populations on the Forest or impair the ability of the Forest to provide well-distributed habitat for these species. Additionally, the proposed project would not affect any populations of those bird species on the list of Birds of Conservation Concern and the Utah Partners in Flight Priority Species lists.

Alternative 3 – Maximum 25-horsepower

Potential impacts to MIS and migratory birds under this alternative are the same as described under the Proposed Action Alternative, with the following exception: the 25 horsepower motor restriction would likely allow more noise produced from motorized boats than Alternative 2. However, since this restriction is still likely to reduce the level of noise that currently can occur from motorized boats, it is determined that the proposed project under this alternative may impact individual MIS and migratory birds, but would not adversely affect any of these species habitats or populations as a whole.

Cumulative Effects

The cumulative effects area for MIS and migratory birds is the Lake Fork river drainage from the wilderness boundary to the Forest Boundary. This area is bounded by the Forest boundary on the south, the wilderness boundary on the north, and the ridge tops on the east and west. This area was selected as the cumulative effects area for these species, because the area is large enough to capture effects that may cumulatively affect wildlife.

The time period in which cumulative effects would occur would be the time during construction of the boat ramp and parking in the late summer and early fall. This is the time that noise disturbance would occur.

The term “wildlife” in the below analysis refers to MIS and migratory birds. Past, present and future activities occurring within the cumulative effects area include, firewood gathering, grazing, roads, off-highway vehicle use, boating, prospecting, camping, hiking, biking, hunting, fishing, horseback riding, sightseeing, wildlife viewing, noxious weeds, backcountry skiing, and snowmobile use.

Cumulative impacts to wildlife such as off-highway vehicle use, boating, prospecting, camping, hiking, biking, hunting, fishing, horseback riding, sightseeing, and wildlife viewing contribute disturbance to wildlife or their prey species. However, none of these activities would remove wildlife habitat. The main effect to wildlife from these activities is noise and human presence. Noise and human presence associated with these activities can displace wildlife to other areas of the cumulative effects area. However, these activities have been occurring in this area for decades. Wildlife would likely be either habituated to the activities or avoid the area where these activities occur. The construction portion of the project would occur during late summer and early fall (outside of the nesting season for these sensitive species). Also, limiting the speed and or the motor size on motor boats would decrease noise in the area over what currently occurs. Therefore, combining these activities with the proposed project would not result in cumulative effects following the completion of construction activities.

Roads fragment habitat and provide access for snowmobiles and backcountry skiers, which can disturb wildlife. However, these roads have been in this area for decades and wildlife would likely be either habituated to the roads and activities associated with roads or would avoid the area where these roads occur. Therefore the effects to wildlife from roads coupled with the proposed project would not be measurable. Winter activities such as snowmobiling and back country skiing do not occur during the same seasonal period as the proposed project, therefore the effects to wildlife from winter activities coupled with the proposed project would not be measurable.

Given the rationale above, it is determined that implementation of the project may displace and impact individuals, but would not affect the trend of MIS and migratory bird populations on the Forest or impair the ability of the Forest to provide well-distributed habitat for these species.

Plant Species

Affected Environment

The ramp would be constructed in the lake bed with a substrate of sand and rocks. No vegetation occurs at this location. Part of the proposed parking area is currently used as truck and trailer parking and is bare ground. The area of the proposed parking area expansion is composed of some grass, a few shrubs, sand, and rock. Adjacent to the site there are aspen stands, lodge pole stands, scattered sagebrush, mountain brush, grasses and forbs. A few ponderosa pines occur at further distances. Since the lake fluctuates, there is very little riparian vegetation near the location of the project.

Effects Analysis

Federally listed threatened, endangered, candidate and proposed species

The only Threatened and Endangered plant to be expected on the Ashley National Forest is the Ute Ladies'-tresses (*Spiranthes diluvialis*). All other Threatened and Endangered plant species are well removed from the National Forest in distance and/or their habitat is not found on the National Forest. Ute Ladies'-tresses does not occur near the proposed project area but has been found in the Lake Fork drainage below the Forest Boundary. There is potential habitat for the species within six miles of the project area. The project area does not include habitat for this species. Numerous vegetative studies are located near the project area and the most recent plant survey was conducted at the site on September 13, 2010. These studies and surveys give no indication that Ute Ladies'-tresses is found or to be expected in the project area. Based on this, no effect to Threatened or Endangered plant species or their habitat is determined for activities of the proposed action. The proposed installation of a boat ramp and parking area at Moon Lake is also expected to have no impact to Ute Ladies' tresses that are outside the proposed action.

Sensitive Plants

The area of the proposed action is not habitat for sensitive plant species. The project area is located in a Glacial Bottom (GB) Landtype Association. No sensitive plant has been found in the GB Landtype Association. Because of this, no direct, indirect or cumulative effects would occur. In addition, the proposed installation of a boat ramp and parking area at Moon Lake is expected to have no impact to sensitive plants that might be outside proposed project areas.

Cultural Resources

The proposed Moon Lake Boat Ramp project was reviewed for cultural resource concerns. The project area above the lake high water line was surveyed in 2011 as part of the Moon Lake Campground reconstruction project (Heritage Project AS-11-00020). The report stated that "the Forest proposes a major rebuild of the [Moon Lake] campground ...to meet current recreation needs" (Heritage Report AS-11-00020 / SHPO concurrence date Sept. 6, 2011 [SHPO Case # 11-1860]). No prehistoric cultural resources were found during the survey and the Moon Lake Resort and the Moon Lake Guard Station were the only historic resources within close proximity of the area. No known cultural resources would be affected by the construction of the boat ramp.

The construction of the boat ramp adjacent to the campground is similar in effects to the reconstruction of the campground, so the 2011 survey and report have sufficiently taken into account the projects potential effect on historic properties as required by Section 106 of the National Historic Preservation Act (Heritage Report AS-11-00020 and SHPO concurrence letter dated Sept. 6, 2011 [SHPO Case # 11-1860]).

Because the proposed project involves ground disturbing activities, Forest Service and federal regulations require that if previously unknown cultural resources are discovered during project activities or construction, they must be immediately reported and all activities within 150ft of the discovery must be halted until authorized to continue by the District Ranger.

Summary of Environmental Effects

Recreation – There would be an increase in the amount of heavy traffic on the Moon Lake road to move required materials to the proposed project site during the late summer and early fall construction period. The current primitive boat ramp and parking areas within the proposed project area would need to be closed to the public during construction of the boat ramp and parking areas. Once the proposed project is completed, the proposed action alternatives would likely reduce the amount of noise disturbance and shore wave action resulting from motor boat over what currently occurs. The paved surface of the constructed boat ramp would greatly reduce or eliminate vehicles becoming stuck and identify a managed area for launching boats which would greatly reduce impacts to surrounding beach areas. Beneficial effects to recreation would result from the completed construction of the boat ramp and parking area and would not negatively affect the recreational experience of other users.

Wilderness – The northern third of Moon Lake is adjacent to the High Uintas Wilderness. The construction of the proposed boat ramp and parking area would result in increased truck and equipment traffic along the Forest Road. Construction activities would produce noise in the project area.

Once construction of the proposed boat ramp and parking area is completed, there is expected to be a reduction in noise, speed and disturbance by motor boats from what is currently occurring. With the improved access to the lake, there may also be a change in the frequency and number of watercraft seen on the lake from the public in adjacent wilderness. The only view to the lake from a trail in the wilderness would be from approximately three miles away (FS trail 123). Therefore, there would be very little impact to the wilderness experience as a result of implementing the proposed action.

The motor size restriction would likely result in fewer boats using Moon Lake because boats with motors rated greater than 25 hp would not be able to legally access the lake. Because these smaller motors could operate at both higher speeds and full throttle, there would likely be more effects from noise and disturbance than that expected from the Proposed Action. However, because this reservoir is not located in the wilderness and the nearest location on a trail within wilderness where the lake could be viewed is approximately three miles away, no effects to wilderness values are expected.

Hydrology – No significant differences for their effects to water quality are expected among the action and no action alternatives. An indirect effect of the action alternatives may be the potential for increased boat use on the lake. However, the no-wake or maximum motor size restriction would likely preclude effects from increased use. Regardless of the level of increased use, completion of the project would not pose a detectable difference to water quality over the current condition.

Aquatic species – Because there is no suitable habitat within or near the proposed project area and there would be no water depletions associated with the project, both of the action alternatives for the proposed project are expected to have no effect on listed aquatic threatened and endangered species. No impacts to sensitive aquatic species, including Colorado River cutthroat trout boreal toad and Columbia spotted frog, are expected as a result of the action alternatives. The only potential indirect effect of the action alternatives would be the potential increased harvest of fish from Moon Lake as a result of improved access and potential increased use of the lake by boat anglers. This would not affect the overall fish habitat available in Moon Lake. The construction of the boat ramp would disturb and change the substrate used by macroinvertebrates in the immediate construction area but would not negatively affect the overall health of the aquatic ecosystem. No cumulative effects are expected for aquatic species or their habitat as a result of the action alternatives.

Terrestrial species – Impacts to terrestrial species would primarily be related to activities and noise produced during construction of the boat ramp. The proposed project does not occur within habitat of federally listed threatened, endangered, candidate and proposed terrestrial wildlife species and therefore the proposed project would have no effect to these species. Of the 14 Forest Sensitive species, six (spotted bat, Townsend's big-eared bat, bald eagle, flammulated owl, three-toed woodpecker and northern goshawk) are identified as potentially being affected by the action alternatives of the proposed project. Analysis of these six species has determined that the proposed action may impact individuals but would not cause a trend toward federal listing or cause a loss of viability to the population of these species. The potential impacts to wildlife from the construction of the boat ramp and parking lot would be the temporary noise from equipment used to complete the project. The size and placement of the boat ramp and parking lot would not impact terrestrial MIS and migratory birds. Cumulative effects to sensitive and terrestrial MIS from current and past activities on the forest are expected to be negligible.

Plant species – The proposed action would have no effect to Threatened or Endangered plant species or their habitat and would have no impact to these species outside of the proposed action. In addition, the proposed project is expected to have no impact to sensitive plants.

Cultural Resources - The proposed project was reviewed for cultural resource concerns in 2011 as part of the Moon Lake Campground reconstruction project. No prehistoric cultural resources were found during the survey and the Moon Lake Resort and the Moon Lake Guard Station were the only historic resources within close proximity of the area. No known cultural resources would be affected by the construction of the boat ramp.

Finding of No Significant Impact

As the responsible official, I am responsible for evaluating the effects of the project relative to the definition of significance established by the CEQ Regulations (40 CFR 1508.13). In order to determine the significance of an action, the regulations found in Forest Service Handbook (FSH) 1909.15 state: “Significantly, as used in NEPA, requires considerations of both context and intensity”, pursuant to 40 CFR 1508.27. The project was considered in both context and intensity and the determination made for both is described below.

I have reviewed and considered the EA and documentation included in the project record, and I have determined that the construction of a concrete boat ramp, paved parking area and implementation of No Wake or boat motor size lake travel restriction will not have a significant effect on the quality of the human environment. As a result, no environmental impact statement will be prepared. My rationale for this finding is as follows, organized by sub-section of the CEQ definition of significance cited above.

Context

Context: “In the case of site specific actions, significance would usually depend on the effects in the locale rather than in the world as a whole. Both short and long-term effects are relevant” (FSH 1909.15, 65.1, Part 02). This project is a site-specific action that by itself does not have international, national, region-wide, or statewide importance. The resource effects analysis disclosed in the EA reveal that most of the environmental effects of project implementation are confined to the project area, with some effects extending into cumulative effects analysis areas, but not beyond. I considered both the short and long-term effects of this project as described on pages 29 - 30. It is my determination that the effects of implementing either action alternative will not be significant locally, regionally or nationally. The discussion of the significance criteria that follows applies to the intended action and is within the context of local importance in the area associated with the project area.

Intensity

Intensity is a measure of the severity, extent, or quantity of effects, and is based on information from the effects analysis of this EA and the references in the project record. The effects of this project have been appropriately and thoroughly considered with an analysis that is responsive to concerns and issues raised by the public. The agency has taken a hard look at the environmental effects using relevant scientific information and knowledge of site-specific conditions gained from field visits. My finding of no significant impact is based on the context of the project and intensity of effects using the ten factors identified in 40 CFR 1508.27(b).

1. Impacts that may be both beneficial and adverse. A significant effect may exist even if the Federal agency believes that on balance the effect will be beneficial.

My finding of no significant environmental effects is not biased by the beneficial effects of the action. Impacts from the proposed project are primarily related to noise disturbance associated with construction of the boat ramp and parking area. Once

construction is complete and a proposed travel restriction is implemented, noise levels are expected to return to or below current levels (see EA pages 30 & 31).

2. The degree to which the proposed action affects public health or safety.

A high level of heavy truck traffic with an estimated 1, 063 trips necessary to bring in required fill and construction materials (including concrete and asphalt) would occur during the construction of the parking area and boat ramp. Appropriate signing to indicate heavy truck traffic and flagging of the construction area would minimize potential effects to public safety. Once the boat ramp and paved parking area are completed, public health and safety is expected to be improved. The improved access to the lake afforded by the use of the concrete ramp will eliminate launch vehicles getting stuck (see EA page 30).

3. Unique characteristics of the geographic area such as the proximity to historical or cultural resources, parklands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas.

There will be no significant effects to unique characteristics of the area, because no cultural resources were identified in the area and the boat ramp will be constructed at and below the high water level of Moon Lake. The paved parking area would also be constructed in the currently used undeveloped parking area (see EA pages 29 – 31). Additionally, there are no wild and scenic rivers, no environmentally sensitive areas, no prime farmland, no wetlands, and no parklands in the project area.

4. The degree to which the effects on the quality of the human environment are likely to be highly controversial.

The effects on the quality of the human environment are not likely to be highly controversial. There is no known scientific controversy over the impacts of the project.

5. The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks.

We have considerable experience with the types of activities to be implemented. The effects analysis shows the effects are not uncertain, and do not involve unique or unknown risks.

6. The degree to which the action may establish precedent for future actions with significant effects or represents a decision in principle about a future consideration.

The action is not likely to establish a precedent for future actions with significant effects. The construction of boat ramps and parking areas is a common practice at lakes used for recreational fishing.

7. Whether the action is related to other actions with individually insignificant but cumulatively significant impacts. Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment. Significance cannot be avoided by terming an action temporary or by breaking it down into small component parts.

The cumulative impacts are not significant (see EA pages 30 & 31).

8. The action will have no significant adverse effect on districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places. The action will also not cause loss or destruction of significant scientific, cultural, or historical resources because surveys conducted by the Forest heritage program found no cultural resources and Utah SHPO concurred with No Historic Properties on September 6, 2011. The Section 106 (cultural resources) clearance process is complete and the project may proceed. A clearance letter from the Utah State Historic Preservation Officer dated September 6, 2011 is located in the project record (see EA pages 29 – 30).
9. The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973.

The Biological Assessments (BAs) determined that the action will not adversely affect any threatened or endangered species or its habitat that has been determined to be critical under the Endangered Species Act of 1973. (see EA pages 14 & 17).

10. Whether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment.

The action will not violate Federal, State or local laws or requirements imposed for the protection of the environment. Applicable laws and regulations were considered (see EA page 3). The action is consistent with the Ashley National Forest Land and Resource Management Plan (see EA page 3).

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