

## **ALTERNATIVE C: INCREASED MOTORIZED ACCESS**

See figures 6 and 7.

### **Lone Rock Beach**

Alternative C would be the same as alternative A with the addition of a requirement for an ORV permit. Lone Rock Beach would be open to conventional motor vehicles, OHVs, and street-legal ATVs.

All operators of motor vehicles must obey all traffic laws while on Lone Rock Beach. The speed limit on Lone Rock Beach would be 15 mph or as posted. Lone Rock Beach would not be open to beach “cruising”: beach users would be allowed to drive to their destination and park for the duration of their stay, but drivers would not be allowed to drive up and down the beach. Motor vehicles may be operated from the operator’s camping location to the Lone Rock Beach Play Area only to access the play area. Motor vehicle operators must conform to all applicable state licensing, registration, and insurance requirements.

### **Lone Rock Beach Play Area**

The Lone Rock Beach Play Area would be open for conventional motor vehicles, OHVs, and street legal ATVs to operate in an unrestricted manner, as described under alternative A, with the addition of a requirement for an ORV permit. Additionally, all vehicles operating on the dunes would be required to display a red or orange whip flag at least 8 feet off the ground while being operated. The safety flag may also be attached to the protective headgear of a person operating a motorcycle so that the safety flag is at least 18 inches above the top of the operator’s head. For additional information, see Utah OHV regulations (UCA 41-22-1 et seq.).

### **Accessible Shoreline Areas**

Fifteen accessible shoreline areas (13 existing shoreline areas as well as Paiute Farms and Nokai Canyon) would be authorized for use by conventional motor vehicles, OHVs, and street-legal ATVs, only by permit, subject to water-level closures. The speed limit at accessible shoreline areas would be 15 mph or as posted. Quiet hours after 10:00 p.m. would be implemented to prevent excessive noise. Motor vehicle operators would be required to conform to all applicable state licensing, registration, and insurance requirements.

### **Travel on GMP Roads**

Conventional motor vehicles would continue to be authorized to operate on all GMP roads (paved and unpaved) in Glen Canyon. In addition, OHVs and street-legal ATVs would be authorized to operate on all GMP roads, including roads in the Orange Cliffs Special Management Unit. All on-road OHV and street-legal ATV use would be subject to the same restrictions and rules as conventional motor vehicle use. The speed limit on unpaved GMP roads would be 25 mph or as posted. The speed limits on paved GMP roads would not change and would remain as currently posted.

### **Ferry Swale**

In order to facilitate access to adjacent BLM lands and provide connectivity with GMP roads, conventional motor vehicles, OHVs, and street-legal ATVs would be allowed, by permit, to operate on approximately 15 miles of designated ORV routes (see figure 7). Other existing user-created routes would be restored to natural conditions. The speed limit on these routes, for all vehicles, would be 25 mph or as posted. GMP roads in Ferry Swale are addressed above in the section “Travel on GMP Roads.”

### **ORV Fee Permit System**

- Permits would be required for off-road use at accessible shoreline areas, Lone Rock Beach, and Lone Rock Beach Play Area, and on designated ORV routes in Ferry Swale.
- A permit system would be implemented as a means to better manage the ORV plan. Requiring all operators desiring to travel off-road in Glen Canyon to obtain a permit will provide a means to monitor use as well as educate operators about rules and regulations, safety, and resource protection.
- Permit fees would be used to recover NPS costs for managing areas designated for off-road use. Costs include monitoring, signs, education programs, and partnerships, as well as the administrative costs associated with administering the permits.
- Permits could be revoked for violation of applicable regulations or terms and conditions of the permit.



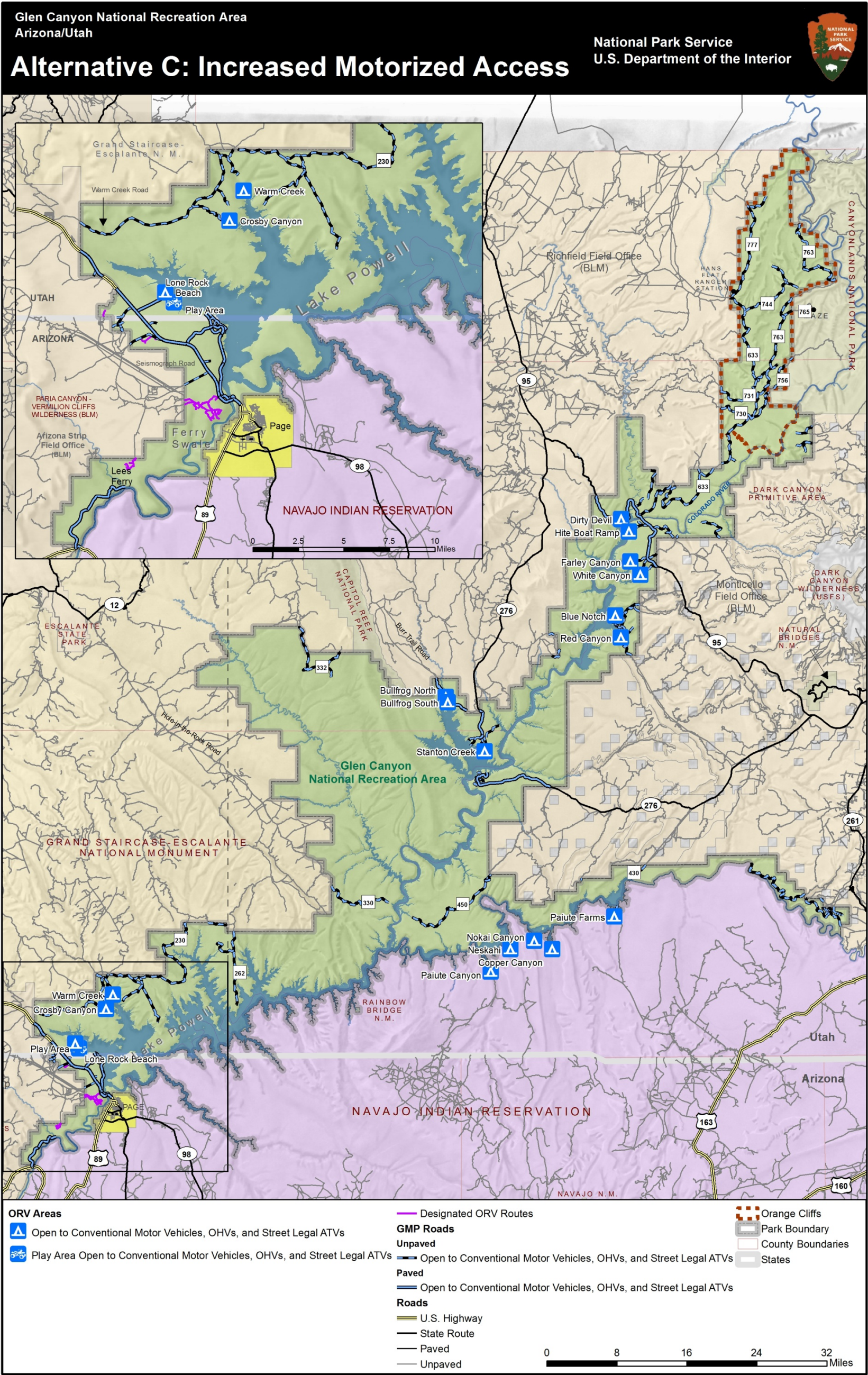


FIGURE 6: ALTERNATIVE C: INCREASED MOTORIZED ACCESS







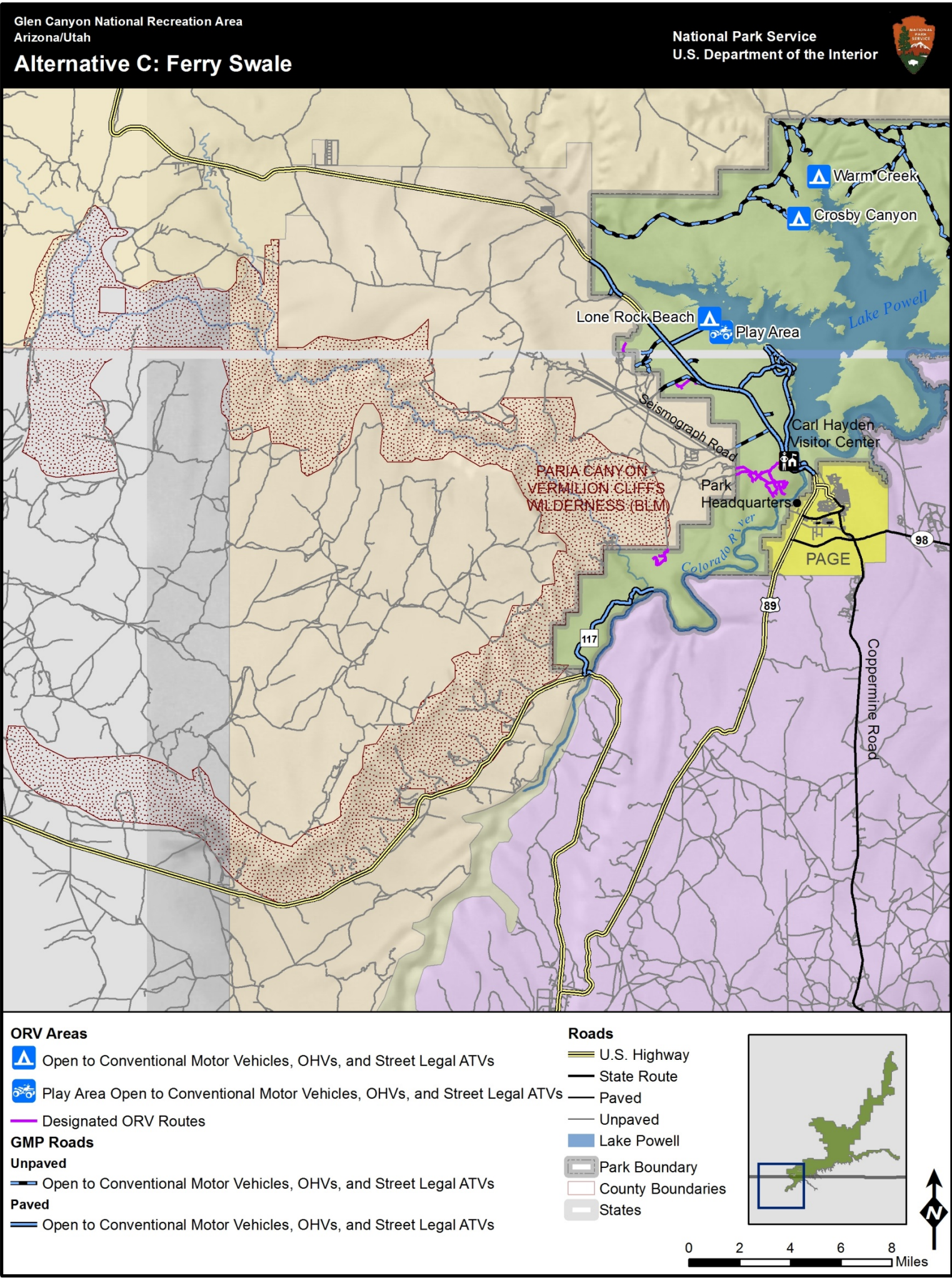


FIGURE 7: DESIGNATED ORV ROUTES IN FERRY SWALE: ALTERNATIVE C



## **ALTERNATIVE D: DECREASED MOTORIZED ACCESS**

See figure 8.

### **Lone Rock Beach**

Lone Rock Beach would remain open by permit to conventional motor vehicles only. All OHV and street-legal ATV use in Lone Rock Beach would be prohibited.

All operators of conventional motor vehicles must obey all traffic laws while on Lone Rock Beach. The speed limit on Lone Rock Beach would be 15 mph or as posted. Motor vehicles may be operated from the operator's camping location to the Lone Rock Beach Play Area only to access the play area. Motor vehicle operators must conform to all applicable state licensing, registration, and insurance requirements.

### **Lone Rock Beach Play Area**

Alternative D would be the same as alternative B. Off-road use at the Lone Rock Beach Play Area would be discontinued and the area would be restored to natural conditions.

### **Accessible Shoreline Areas**

Off-road use at eleven accessible shoreline areas would be permanently discontinued and the areas would be restored to natural conditions. Use of the following shoreline areas would be discontinued to vehicle access under this alternative: Warm Creek, Red Canyon, Neskahi, Blue Notch, Bullfrog North and South, Copper Canyon, Crosby Canyon, Paiute Canyon, White Canyon, Paiute Farms, and Nokai Canyon. Paiute Farms and Nokai Canyon are shoreline areas that are currently being accessed by the public, but are not officially open under the 1988 Accessible Shorelines DCP/EA. Under alternative D, the closure of Paiute Farms and Nokai Canyon would continue and management action could be taken to prevent access.

Four accessible shoreline areas (Dirty Devil, Farley Canyon, Hite Boat Ramp, and Stanton Creek) would be authorized for use by conventional motor vehicles, only by permit, subject to water-level closures. A speed limit of 15 mph would be implemented at the shoreline areas. Quiet hours after 10:00 p.m. would prevent excessive noise.

Motor vehicle operators would be required to conform to all applicable state licensing, registration, and insurance requirements. The operation of any OHV or street-legal ATV would be prohibited in the four open ORV areas.

### **Travel on GMP Roads**

Only conventional motor vehicles would be authorized to operate on all GMP roads (paved and unpaved) in Glen Canyon. All OHV and street-legal ATV use on all GMP roads would be prohibited.

### **Ferry Swale**

Alternative D would be the same as alternative B. No ORV routes would be designated and use of any existing user-created routes in the Ferry Swale area would be illegal by any type of motor vehicle. GMP roads in Ferry Swale are addressed above in the section "Travel on GMP Roads."



### **ORV Fee Permit System (Same as Alternative C)**

- Permits would be required for off-road use at accessible shoreline areas, Lone Rock Beach, and Lone Rock Beach Play Area, and on designated ORV routes in Ferry Swale.
- A permit system would be implemented as a means to better manage the ORV plan. Requiring all operators desiring to travel off-road in Glen Canyon to obtain a permit will provide a means to monitor use as well as educate operators about rules and regulations, safety, and resource protection.
- Permit fees would be used to recover NPS costs for managing areas designated for off-road use. Costs include monitoring, signs, education programs, and partnerships, as well as the administrative costs associated with administering the permits.
- Permits could be revoked for violation of applicable regulations or terms and conditions of the permit.



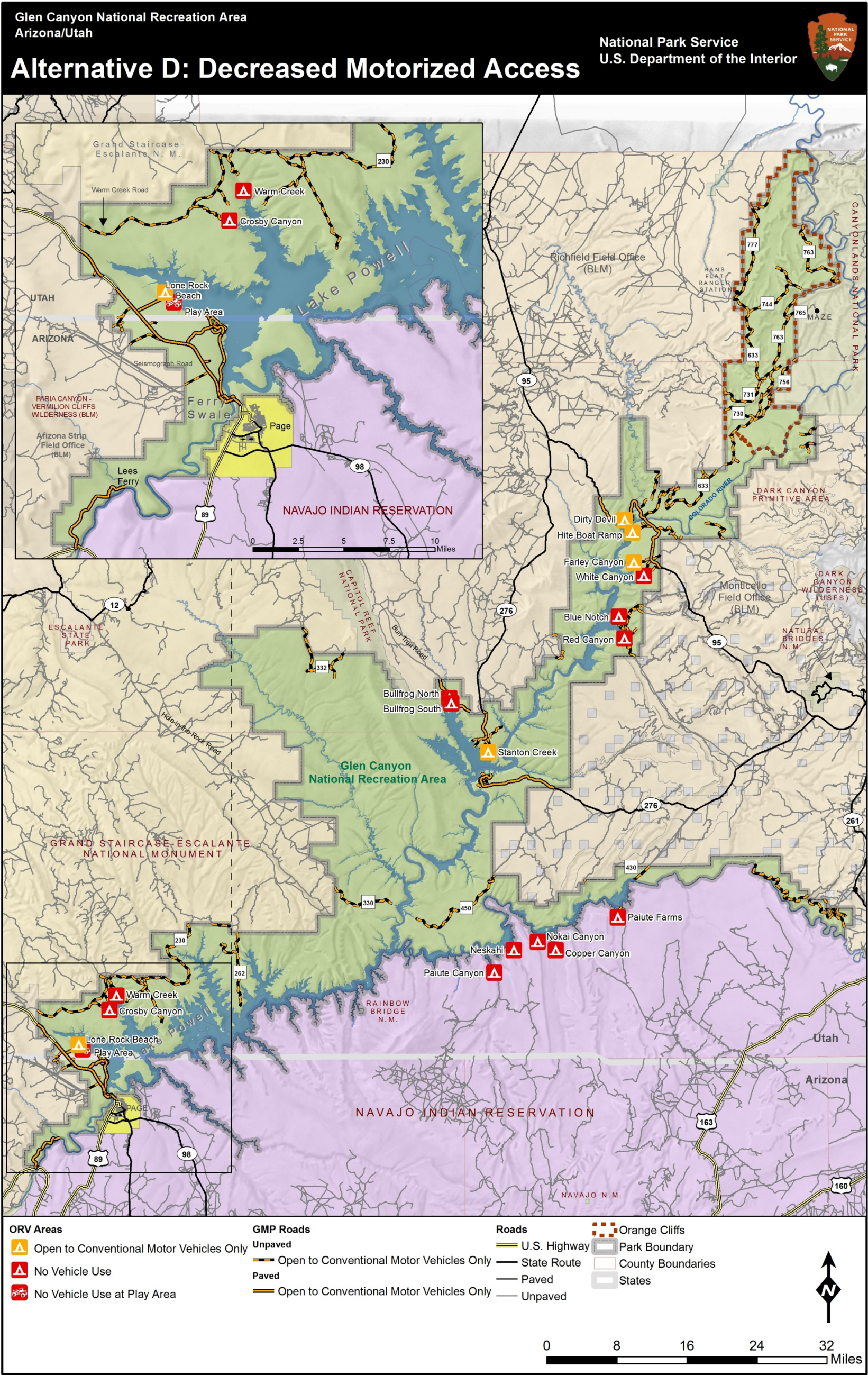


FIGURE 8: ALTERNATIVE D: DECREASED MOTORIZED ACCESS







## **ALTERNATIVE E: MIXED USE (NPS PREFERRED ALTERNATIVE)**

See figures 9 and 10.

### **Lone Rock Beach**

Lone Rock Beach would remain open by permit to conventional motor vehicles, OHVs, and street-legal ATVs. A portion of Lone Rock Beach (approximately 20 acres) would be designated as a vehicle-free zone to provide a unique experience for tent campers who would prefer to be separated from all motor vehicle users.

All operators of motor vehicles must obey all traffic laws while on Lone Rock Beach. The speed limit on Lone Rock Beach would be 15 mph or as posted. Motor vehicle operators must conform to all applicable state licensing, registration, and insurance requirements.

### **Lone Rock Beach Play Area**

Alternative E would be the same as alternative C. Lone Rock Beach Play Area would remain open by permit to conventional motor vehicles, OHVs, and street-legal ATVs. All vehicles operating on the dunes would be required to obtain an ORV permit and display a red or orange whip flag at least 8 feet off the ground while being operated. The safety flag may also be attached to the protective headgear of a person operating a motorcycle so that the safety flag is at least 18 inches above the top of the operator's head. For additional information, see Utah OHV regulations (UCA 41-22-1 et seq.).

### **Accessible Shoreline Areas**

Off-road use at one accessible shoreline area would be discontinued permanently (Warm Creek). Fourteen areas (12 existing areas plus Paiute Farms, and Nokai Canyon) would be authorized for use by conventional motor vehicles and street-legal ATVs, only by permit, subject to water-level closures. The speed limit at accessible shoreline areas would be 15 mph or as posted. Quiet hours after 10:00 p.m. would be implemented to prevent excessive noise. Motor vehicle operators would be required to conform to all applicable state licensing, registration, and insurance requirements.

### **Travel on GMP Roads**

Conventional motor vehicles would continue to be authorized to operation on all GMP roads (paved and unpaved) in Glen Canyon. Street-legal ATVs would be authorized to operate on paved GMP roads in Glen Canyon. OHVs and street-legal ATVs would be authorized on unpaved GMP roads. No OHVs or street-legal ATVs would be authorized on GMP roads in the Orange Cliffs Special Management Unit. All on-road OHV and street-legal ATV use would be subject to the same restrictions and rules as conventional motor vehicle use. The speed limit on unpaved GMP roads would be 25 mph or as posted. The speed limits on paved GMP roads would not change and would remain as currently posted.

### **Ferry Swale**

Alternative E would be the same as alternative C. In order to facilitate access to adjacent BLM lands and provide connectivity with unpaved GMP roads, conventional motor vehicles, OHVs, and street-legal ATVs would be allowed by permit to operate on approximately 15 miles of designated ORV routes (see figure 10, the same as under alternative C). The speed limit on these routes, for all vehicles, would be 25 mph or as posted. GMP roads in Ferry Swale are addressed above in the section "Travel on GMP Roads."

### **ORV Fee Permit System (Same as Alternative C)**

- Permits would be required for off-road use at accessible shoreline areas, Lone Rock Beach, and Lone Rock Beach Play Area, and on designated ORV routes in Ferry Swale.
- A permit system would be implemented as a means to better manage the ORV plan. Requiring all operators desiring to travel off-road in Glen Canyon to obtain a permit will provide a means to monitor use as well as educate operators about rules and regulations, safety, and resource protection.
- Permit fees would be used to recover NPS costs for managing areas designated for off-road use. Costs include monitoring, signs, education programs, and partnerships, as well as the administrative costs associated with administering the permits.
- Permits could be revoked for violation of applicable regulations or terms and conditions of the permit.



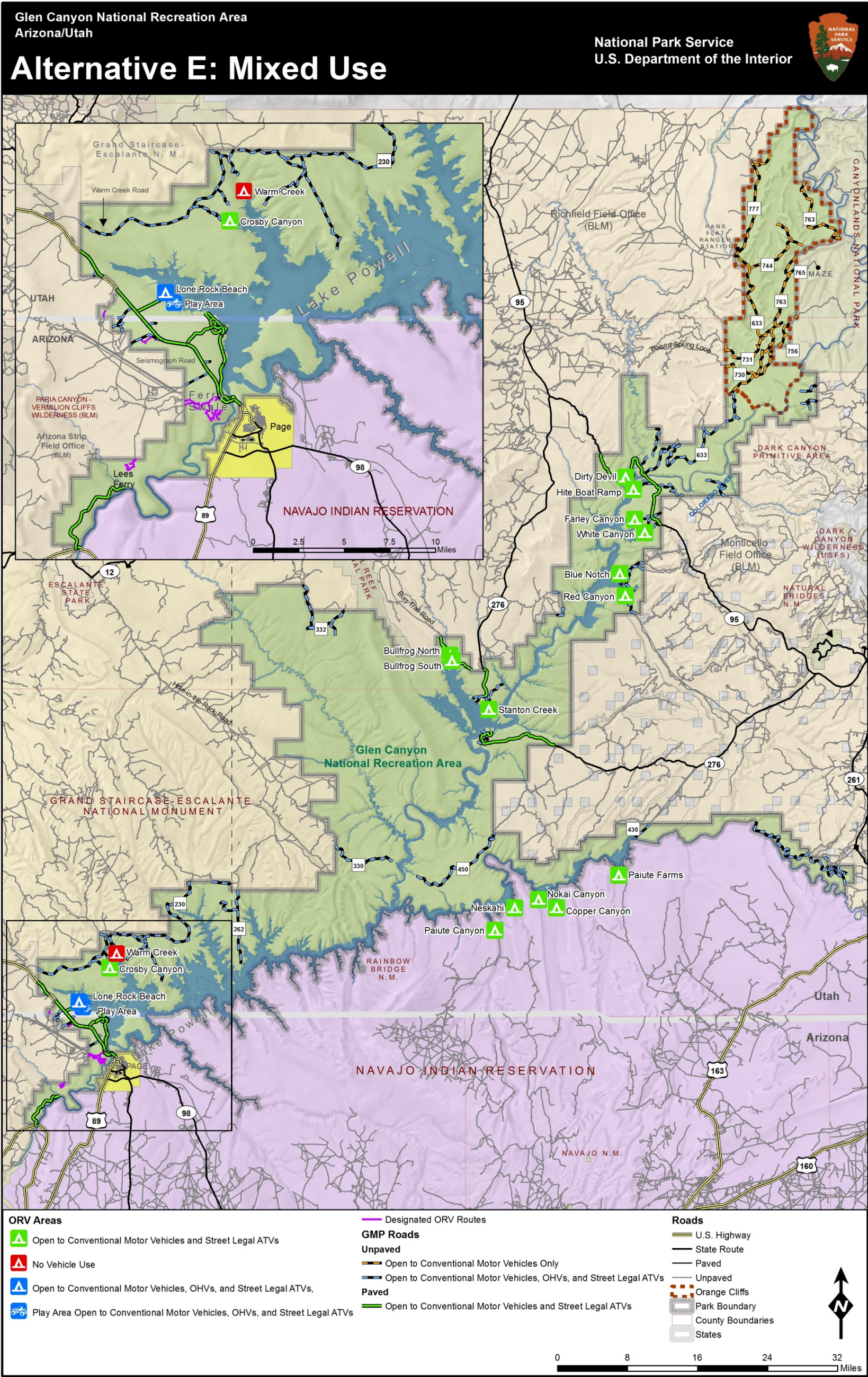


FIGURE 9: ALTERNATIVE E: MIXED USE (NPS PREFERRED ALTERNATIVE)





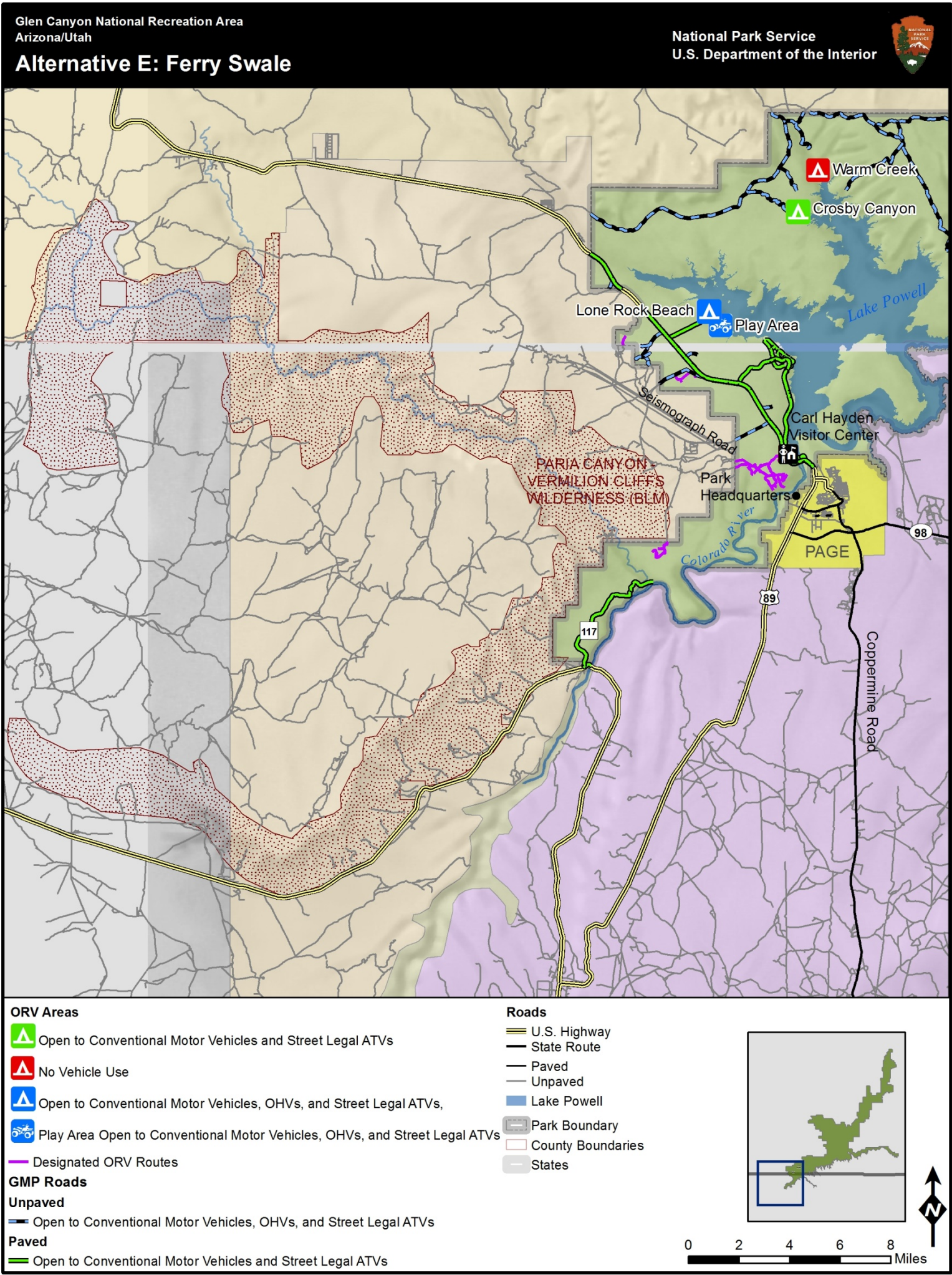


FIGURE 10: DESIGNATED ORV ROUTES IN FERRY SWALE: ALTERNATIVE E





## ALTERNATIVES ELIMINATED FROM FURTHER CONSIDERATION

The CEQ provides clear direction that federal agencies should not routinely dismiss alternatives as unreasonable. For instance, if an alternative meets any of the following criteria, but is otherwise feasible, it must be included in the range of alternatives. The alternative may be:

1. Outside the scope of what Congress has approved or funded.
2. Outside the legal jurisdiction of the Glen Canyon National Recreation Area.
3. Undesirable to an outside applicant but reasonable to the Glen Canyon National Recreation Area.
4. In conflict with a law.
5. Outside those alternatives provided for by a GMP or other park planning document (particularly if the plan is outdated or no longer applicable).

The CEQ states that although the above items may be temporary obstacles to action, the analysis provided through an environmental impact statement (EIS) may likewise serve as a vehicle for change. As a rule, however, alternatives analyzed in NPS documents should be consistent with the laws, policies, and regulations that guide NPS (NPS 2011a, 55).

Director's Order 12 (NPS 2011a, section 4.5) states that an alternative may be eliminated from further study for any of the following reasons:

1. The alternative is technically or economically infeasible.
2. The alternative fails to meet project objectives or resolve project needs.
3. The alternative is duplicative of other, less environmentally damaging or less expensive alternatives.
4. There is conflict with an up-to-date and valid park plan, statement of purpose and significance, or other longstanding NPS policy.
5. The alternative would result in too great an environmental impact.

The planning process resulted in a broad exchange of ideas regarding development of an ORV management plan for Glen Canyon. Several management options were considered but ultimately not carried forward for further analysis because the options were beyond the scope of the planning analysis or were determined to be unreasonable. The following proposed management actions were considered but not carried forward for further analysis by the IDT for the following reasons.

### ADOPTING EQUIPMENT/OPERATOR REGULATIONS FOR ATVs ON GLEN CANYON ROADS IN AN NPS SPECIAL REGULATION

Several commenters suggested that NPS adopt special equipment and operator requirements for the use of OHVs on unpaved GMP roads. NPS considered developing specific equipment and operator requirements, including but not limited to the requirement that OHV and ATV operators possess a valid driver's license. However, creating a new set of requirements for OHV and ATV operation on unpaved GMP roads in Glen Canyon would create a confusing regime of regulations for visitors and law enforcement.

Glen Canyon currently crosses two state jurisdictions, Arizona's and Utah's, and visitors with OHVs and ATVs from both states typically know the regulations governing OHV and ATV use in the respective jurisdictions. In the preamble to Part 4 of Chapter 36 of the Code of Federal Regulations, NPS makes clear that "the foundation of its

vehicle and its traffic safety regulations [are] the nonconflicting provisions of the respective State vehicle codes.” This “reflects the fact that NPS generally considers the respective States to be the appropriate authorities to regulate traffic, and relies heavily on the adoption of State vehicle codes.” In addition, “NPS regulations supplementing those codes are limited to ones that are necessary to resolve visitor safety and/or resource protection concerns that cannot be satisfied...by applying and enforcing State vehicle code provisions.” Creating a new regulatory regime for OHV and ATV use on unpaved GMP roads in Glen Canyon would create a new regulatory overlay that would be inconsistent with both states, with counties, and with other adjacent federal jurisdictions that authorize OHV and ATV use.

Because of enforcement concerns and the potential to create confusing, conflicting regulations, this alternative element was not carried forward for further analysis. The alternatives instead reflect vehicle and operator requirements provided in state law.

## **DEVELOPMENT OF ADDITIONAL ALL-TERRAIN VEHICLE / OFF-ROAD VEHICLE AREAS**

During public scoping, a number of commenters, including one county government, indicated a preference for the development of a new ATV/ORV play area in the vicinity of the Bullfrog developed area.

Glen Canyon recently evaluated visitor use and needs to develop a management strategy for the Bullfrog developed area and other uplake development areas. The December 2006 Uplake Development Concept Plan (NPS 2006b, 2006c) did not include the development of an ORV/ATV play area in its review of visitor use needs at the Bullfrog developed area.

The IDT did not carry forward this alternative element for the development of new ORV/ATV areas for the following reasons:

- The development of additional visitor use areas, including ORV areas, would be outside the scope of this planning effort, as defined in chapter 1.
- The development of new ORV/ATV areas would not meet project objectives or needs.
- The development of new ORV areas would be anticipated to result in adverse natural and cultural impacts, and would require additional site-specific evaluation and planning beyond the scope of this plan.
- The development of new ORV areas would be inconsistent with NPS guidance and policy, which do not promote the development of ORV play areas.

## **RS 2477 RIGHTS-OF-WAY**

A number of commenters requested that the plan acknowledge state- or county-asserted Revised Statute (R.S.) 2477 rights-of-way. No regulations to either assert or recognize R.S. 2477 rights-of-way currently exist. Courts may ultimately determine the validity of R.S. 2477 claims. This plan/DEIS does not adjudicate, analyze, or otherwise determine the validity of claimed rights-of-way. Nothing in the plan/DEIS extinguishes any valid right-of-way, or alters in any way the legal rights the states and counties have to assert and protect R.S. 2477 rights or to challenge in federal court or other appropriate venues any use restrictions imposed by the plan/DEIS that they believe are inconsistent with their rights. While R.S. 2477 claims have been asserted by states and counties, it is beyond the scope of this plan/DEIS to recognize or reject R.S. 2477 claims. Nothing in this plan/DEIS is intended to provide evidence bearing on or addressing the validity of any R.S. 2477 claims. At such time as a decision is made on R.S. 2477 claims, NPS could adjust its travel routes accordingly, if necessary. Therefore, the acknowledgment of R.S. 2477 rights-of-way was not carried forward for analysis in this plan/DEIS.



## **INCLUSION OF A WILDERNESS BASELINE INVENTORY IN THE ORV PLAN**

Commenters suggested that NPS include a wilderness inventory as part of the ORV plan. Specifically, some commenters requested that the areas below the high water mark where waters have receded be assessed for wilderness qualities. Questions regarding wilderness designation or study are not within the scope of this plan. A wilderness analysis and study was included in the 1980 Wilderness Recommendation (NPS 1980). This recommendation used the management zoning outlined in the Glen Canyon GMP, which addressed areas below the high water mark that are exposed as the lake levels recede. None of the paved or unpaved GMP roads, or off-road routes or areas are in proposed wilderness; therefore, a wilderness study will not be included as part of the plan.

## **DESIGNATION OF CERTAIN NEW ORV ROUTES**

A number of commenters, including cooperating agencies, requested that NPS open Rincon Road as an ORV route. NPS considered but rejected this proposal for two reasons. First, Rincon Road is within the proposed wilderness boundary at Glen Canyon. NPS policy requires that Glen Canyon “take no action that would diminish the wilderness eligibility of an area possessing wilderness characteristics until the legislative process of wilderness designation has been completed” (NPS *Management Policies* 2006 Section 6.3.1). Motor vehicle uses, such as the one proposed, are not permitted within proposed wilderness, consistent with NPS policy. Therefore, in order to consider this type of use on Rincon Road, Glen Canyon would need to revise its wilderness boundary. Changes to the wilderness boundary are outside the scope of this plan. In addition, it is outside the scope of the plan to evaluate Glen Canyon’s road system. Opening Rincon Road is inconsistent with current planning documents, including the Glen Canyon GMP, which closed Rincon Road to vehicle traffic.

Some commenters requested designation of other routes within Glen Canyon. One commenter requested Glen Canyon to designate the spur off of John’s Canyon Road as an ORV route. This suggestion was considered but dismissed because this particular spur is not within NPS jurisdiction. Another commenter requested designating spurs off of Hole in the Rock Road near Iceberg Canyon as an ORV route. This request was considered but rejected because the spurs are located within the proposed wilderness boundary. As noted previously, NPS policy prohibits vehicle traffic within proposed wilderness. Finally, this area may be accessed by foot from Hole-in-the-Rock Road if visitors wish to use the area.

## **CHANGES TO THE ROAD SYSTEM**

During the public scoping a number of commenters raised the issue of changing Glen Canyon’s authorized road system to open additional roads for public use. Commenters largely focused on the GMP closure of the Rincon Road on Wilson Mesa, and the John’s Canyon Road below Muley Point. Garfield County has expressed a strong desire to open the closed Harris Wash–Silver Falls route to ATVs.

The 1979 Glen Canyon GMP (NPS 1979) designated the official road system of Glen Canyon after extensive public input and evaluation of existing roads for natural and cultural resource conditions, historic visitor use patterns, recreation demand, traffic circulation needs, and other relevant issues.

NPS acknowledges that the GMP roadmap is not entirely accurate and that it is depicted at a scale that is not useful for the detailed effort necessary for this plan/DEIS. NPS worked with the BLM and in 2006 conducted a road survey to correct misaligned GMP-authorized roads. These realignments of designated roads are reflected in the road system map printed in this document.

Addressing issues related to closed roads such as the Rincon or Harris Wash–Silver Falls would require additional NEPA evaluation. NPS would address these road issues with the counties and other stakeholders independent of this planning document.

Therefore, alternatives to open, close, or alter the Glen Canyon road network were not carried forward for further analysis by the IDT because changes to the road system would not be consistent with current management plans, including the 1979 Glen Canyon GMP (NPS 1979) and the 1980 Wilderness Recommendation. In addition, any changes to the designated road system would require an extensive road evaluation process, which is beyond the scope of this plan.

## HOW THE ALTERNATIVES MEET PROJECT OBJECTIVES

As previously discussed, all action alternatives analyzed in this plan/DEIS must meet all objectives to a large degree, addressing the stated purpose of action and resolving the need for action. Each action alternative (B, C, D, and E) provide safe and healthful visitor enjoyment by instituting additional safety measures and speed limits or by eliminating uses. The action alternatives provide protections for the biological and physical environment by monitoring for off-road impacts or on-road OHV and ATV impacts and providing mitigation measures when resources may be adversely impacted. All action alternatives protect cultural resources by eliminating use in areas where resources have not been appropriately surveyed and protected. All alternatives provide clear guidelines on where and when vehicles may be used off-road or on-road at Glen Canyon.

## CONSISTENCY WITH THE PURPOSES OF NEPA

NPS requirements for implementing NEPA include an analysis of how each alternative meets or achieves the purposes of NEPA, as stated in sections 101(b) and 102(1). CEQ Regulation 1500.2 establishes policy for the implementation of NEPA by federal agencies. Federal agencies shall, to the fullest extent possible, interpret and administer the policies, regulations, and public laws of the United States in accordance with the policies set forth in NEPA (sections 101(b) and 102(1)); therefore, other acts and NPS policies are referenced as applicable in the following discussion.

### **1. Fulfill the responsibilities of each generation as trustee of the environment for succeeding generations.**

All of the action alternatives proposed would manage off-road motor vehicle use and on-road OHV and street-legal ATV use at Glen Canyon in a manner to best protect the resources

Alternative B would meet the natural, physical, and cultural resource related objectives (soils, vegetation, wildlife, soundscapes, paleontology, archeology, and wilderness) because off-road use would no longer be permitted within Glen Canyon. The absence of off-road use would result in a near absence of sound emissions and would eliminate vehicle disturbance to soils, vegetation, wildlife, cultural resources, and wilderness values. Alternative B would meet the purpose of fulfilling the responsibilities of each generation as trustee of the environment for succeeding generations, by providing most of Glen Canyon free from impacts to natural, physical, and cultural resources as a result of eliminating off-road use.

Alternative D would only allow recreational off-road use by conventional motor vehicles in a limited number of areas. Therefore, alternative D would meet this purpose because some level of off-road use would be allowed, but the use of OHVs or street-legal ATVs would be prohibited in Glen Canyon, thereby reducing impacts.

Alternatives C and E, which would allow use of motorized vehicles capable of off-road use at levels higher than current conditions, have the greatest potential to create impact to resources. However, implementation of monitoring and mitigation protections would minimize the potential to disturb wildlife during a time when they are most susceptible to disturbance. This off-road use would have greater impacts on the soils, vegetation, soundscape, cultural resources, and wilderness values, resulting in a disturbance to resources.



Alternative A would allow off-road use at Glen Canyon at current use levels. Analysis for this draft plan/DEIS shows there would be impacts to these natural, physical, and cultural resources. There would be no monitoring or management actions under alternative A and resources may not be preserved to the extent of the alternatives with monitoring and management actions (C, D, and E) for succeeding generations.

**2. Ensure for all Americans safe, healthful, productive, and esthetically and culturally pleasing surroundings.**

All alternatives meet this purpose because the Glen Canyon National Recreation Area is a safe visitor destination that is both aesthetically and culturally pleasing, and all of the alternatives encourage healthful recreation in an outdoor environment. The action alternatives (alternatives B, C, D, and E) would increase safety by identifying GMP roads as either authorized or not authorized for use by OHVs and street-legal ATVs, establishing a communication strategy for clear guidance regarding regulations governing off-road motor vehicle use and on-road OHV and street-legal ATV use in Glen Canyon, and requiring all motor vehicles to comply with state motor vehicle and operator requirements. The prohibition of off-road motor vehicle use in Glen Canyon would provide the safest and most healthful recreation environment for visitors and employees. However, on-road OHV and street-legal ATV use on GMP roads in mixed traffic conditions (with conventional motor vehicles) could cause some safety issues. However, the reduction of speed limits would somewhat mitigate this concern.

Alternative C and E would authorize on-road street-legal ATV use on paved GMP roads and on-road OHV and street-legal ATVs use on unpaved GMP roads in mixed traffic conditions (with conventional motor vehicles) which could cause some safety issues. However, the reduction of speed limits would somewhat mitigate this concern. Therefore, alternatives C and E meet this purpose.

Alternative D would prohibit the use of OHVs and street-legal ATVs throughout Glen Canyon, thereby decreasing risks to the health and safety of visitors and employees and meeting this purpose.

Alternative A would generally reduce risks associated with use of motor vehicles capable of off-road use. Motor vehicle use in mixed traffic conditions (with conventional motor vehicles and street-legal ATVs) on GMP roads in Glen Canyon could cause a concern for public safety. NPS would continue to monitor and patrol use areas and implement an education program to inform visitors of safety requirements and precautions. Therefore alternative A meets this purpose.

**3. Attain the widest range of beneficial uses of the environment without degradation, risk of health or safety, or other undesirable and unintended consequences.**

All of the action alternatives offer a wide range of visitor use opportunities, including off-road use (which would be prohibited under alternative B) and on-road OHV and street-legal ATV (which would be prohibited under alternative D). However, the type and diversity of off-road use and on-road OHV and/or street-legal ATV use allowed under a particular alternative could provide for a different way for visitors to experience the Glen Canyon National Recreation Area, or lead to resource degradation or risks to health and safety with higher levels of use.

Alternative B allows for levels of use that are lower than current levels, but still provides for a variety of uses (albeit less than alternatives A, C, D, and E) and resource protection. Visitors would still have various opportunities for use and resources would still be offered protection. Alternative C would allow for higher use levels. Alternative D provides for off-road use by conventional motor vehicles only. Because alternative D would still provide for a range of visitor experiences and protect resources, it would meet this purpose. Alternative E would diversify the types of vehicles allowed for off-road and on-road use. Motor vehicle use in mixed traffic conditions (OHVs and street-legal ATVs with conventional motor vehicles) would be allowed on designated GMP roads in Glen Canyon under alternative E. However, alternative E would establish a non-vehicle area at Lone Rock Beach (another use of the beach that was previously unavailable), creating new visitor use opportunities. Therefore, alternative E would meet this purpose.

Alternative A would allow for use a wide range of visitor use opportunities to include street-legal ATVs on GMP roads, but only conventional vehicles in accessible shoreline areas, and conventional motor vehicles, OHVs, and street-legal ATVs at Lone Rock Beach, Lone Rock Beach Play Area, and on designated ORV routes in Ferry Swale. Due to the varied but concentrated use of OHVs and street-legal ATVs in these three areas, alternative A meets this purpose.

4. **Preserve important historic, cultural, and natural aspects of our national heritage and maintain, wherever possible, an environment that supports diversity and variety of individual choice.**

All alternatives would preserve important historic and cultural aspects of our national heritage in the long term and would meet this purpose. Alternatives that provide for lower levels of off-road use (alternatives B and D) would meet this purpose for cultural and natural resources by reducing the potential to impacts to these resources. However, alternatives B and D would only support diversity and variety of individual choice to a partial degree as discussed under criteria 1 and 2. As discussed under criteria 3, alternatives A, C, and E would best support diversity and variety of individual choice (to a large degree) because of the multiple options provided for experiencing the Glen Canyon National Recreation Area with off-road activities and the use of alternative types of vehicles to the conventional motor vehicle. Alternatives A, C, and E would preserve important historic and cultural aspects of our national heritage in the long term by protecting known resources.

5. **Achieve a balance between population and resource use that will permit high standards of living and a wide sharing of life's amenities.**

Balancing population and resource use under this draft plan/DEIS would include protecting the resources unimpaired for the enjoyment of present and future generations and providing access for visitors to experience the natural resources of the Glen Canyon National Recreation Area. *NPS Management Policies 2006* states that the enjoyment contemplated by the Organic Act is broad; it is the enjoyment of all the people of the United States and includes enjoyment both by people who visit parks and by those who appreciate them from afar. It also includes deriving benefit (including scientific knowledge) and inspiration from parks, as well as other forms of enjoyment and inspiration. Recognizing that the enjoyment by future generations of the national parks can be ensured only if the superb quality of resources and values is left unimpaired, Congress has provided that when there is a conflict between conserving resources and values and providing for enjoyment of them, conservation is to be predominant. For all alternatives except for alternative B (and to a lesser degree alternative D), visitors would have opportunities to enjoy the more remote areas of Glen Canyon that can only be reached by off-road use, such as the accessible shoreline areas. Alternative B would meet this purpose because it would not allow for off-road use but would offer the highest level of protection to natural resources.

As discussed above, alternatives A, C, D, and E would continue to provide for off-road use in Glen Canyon, with monitoring and management measures for alternatives C, D, and E. Use levels could be higher under alternatives C and E due to allowance of OHVs and street-legal ATVs on designated GMP roads (alternatives C and E) and OHVs and street-legal ATVs in some ORV areas (alternatives C and E). Use levels under alternative D would be below current levels because OHVs and street-legal ATVs would not be permitted for use at Glen Canyon. Alternatives C, D, and E would meet the purpose as the public would be provided access to the amenities in the Glen Canyon National Recreation Area that require off-road use.

6. **Enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.**

For reasons discussed above, in varying degrees the action alternatives (alternatives B, C, D, and E) would promote enhancement of renewable resources because all motor vehicle use must comply with state motor vehicle requirements. The second purpose, "approach the maximum attainable recycling of depletable resources," is less relevant to the development of this ORV plan because it relates to "green" building or



management practices. There would be little construction related to any alternative, with the exception of signage to designate ORV areas, identify unpaved GMP roads as either open or closed to on-road OHV and street-legal ATV use, post speed limits, etc. As discussed in chapter 1 of this document, each of the alternatives would require the Glen Canyon National Recreation Area to continue to operate under the guidelines and requirements stated in the *NPS Management Policies 2006*. Therefore each alternative would meet this purpose.

## ENVIRONMENTALLY PREFERABLE ALTERNATIVE

NPS is required to identify the environmentally preferable alternative in its NEPA documents for public review and comment. NPS, in accordance with the Department of the Interior policies contained in the Departmental Manual (516 DM 4.10) and the CEQ's NEPA's Forty Most Asked Questions, defines the environmentally preferable alternative (or alternatives) as the alternative that best promotes the national environmental policy expressed in NEPA section 101(b) (516 DM 4.10). In its Forty Most Asked Questions, the CEQ further clarifies the identification of the environmentally preferable alternative, stating, "Ordinarily, this means the alternative that causes the least damage to the biological and physical environment; it also means the alternative which best protects, preserves, and enhances historic, cultural, and natural resources" (Q6a).

After completing the environmental analysis, NPS identified "Alternative B, No Off-road Use," as the environmentally preferable alternative in this plan/DEIS because it establishes management measures that would reduce the impact of off-road use on the landscape. These measures include the following:

- Eliminating off-road use at Lone Rock Beach, the Lone Rock Beach Play Area, and accessible shoreline areas would eliminate soil damage and provide a better opportunity for natural resources, including vegetation, to be restored. Additionally, cultural and paleontological resources in the area would be protected.
- Eliminating illegal user-created ORV routes at Ferry Swale would provide a better opportunity for natural resources in this area to be restored. Additionally, cultural and paleontology resources (known and unknown) in the area would be protected.
- Eliminating off-road use would maintain the isolated and primitive characteristics of the Glen Canyon backcountry by limiting operation of motor vehicles to designated roads.

## NATIONAL PARK SERVICE PREFERRED ALTERNATIVE

The preferred alternative is that alternative "which the agency believes would fulfill its statutory mission and responsibilities, giving consideration to economic, environmental, technical and other factors" (46 FR 18026, Q4a). Alternative E (Mixed Use) was identified as the NPS preferred alternative. In identifying its preferred alternative, NPS considered factors such as the extent to which alternatives meet plan objectives, environmental consequences, management flexibility and Glen Canyon's enabling legislation.

All of the alternatives satisfied the requirements of 36 CFR 4.10 and establish clear policies to guide recreational use at Glen Canyon. However, alternative E was preferred for the following reasons. Alternative E, more so than alternative C, provides the largest range of experiences for visitors and enhances experiences of different user groups, such as OHV users, conventional motor vehicle users, and those who seek a more primitive camping experience. Although the number of areas designated for off-road use is greater under alternative E than alternatives B or D, alternative E would provide monitoring and mitigation to ensure the necessary resource protection. Monitoring and management actions (as outlined in table 2) would be implemented to ensure protection of resources. Alternative E provides the most flexibility for Glen Canyon to manage visitor access

through management actions such as improved signage, use of physical barriers, and closure of areas if there is evidence of disturbance outside of designated ORV areas. Because alternative E would provide for a greater variety of uses throughout Glen Canyon, it would have less of an impact on the socioeconomics of the area as well.

NPS will consider comments on this draft plan/DEIS and may modify or adjust the preferred alternative accordingly. Any modifications or adjustments will be disclosed in the published final EIS. A ROD will follow the final EIS and will be made available to the public.

## **ENVIRONMENTAL IMPACTS SUMMARY**

Table 4 summarizes the anticipated environmental impacts of the alternatives. The information contained in table 4 is based on the environmental analysis presented in detail in “Chapter 4: Environmental Consequences.” Only those impact topics that have been carried forward for analysis in this plan/DEIS, as identified in chapter 1, are included in this table.

TABLE 4: ENVIRONMENTAL IMPACT SUMMARY BY ALTERNATIVE

IMPACT TOPIC	Alternative A: No Action	Alternative B: No Off-road Use	Alternative C: Increased Motorized Access	Alternative D: Decreased Motorized Access	Alternative E: Mixed Use (NPS Preferred Alternative)
Geology and Soils	Direct adverse impacts from crushing, shearing, compaction, and erosion on 250 acres of soil and geology at Lone Rock Beach; 180 acres at Lone Rock Beach Play Area; approximately 5,900 acres at 13 accessible shorelines; and along approximately 53 miles of ORV routes at Ferry Swale. Approximately 858 acres of low to moderately erodible soils directly disturbed at accessible shoreline areas and approximately 200 acres in Ferry Swale. No impacts on soils from conventional motor vehicle and street-legal ATV use on paved GMP roads; direct impacts on 714 acres of low to moderately erodible soils from compaction and indirect impacts on 3,428 acres of low to moderately erodible soils along unpaved GMP roads.	Beneficial impacts on soils and geology at approximately 250 acres at Lone Rock Beach, 180 acres at Lone Rock Beach Play Area; 7,300 acres at 15 accessible shorelines; and Ferry Swale as a result of discontinuation of off-road use in Glen Canyon. Direct and indirect impacts on soils and geology along GMP roads from conventional motor vehicles and street-legal ATVs would be the same as alternative A.	Direct adverse impacts from crushing, shearing, compaction, and erosion on 250 acres of soils and geology at Lone Rock Beach; 180 acres at Lone Rock Beach Play Area; approximately 7,300 acres at 15 accessible shorelines; and along approximately 15 miles of ORV routes at Ferry Swale. Approximately 867 acres of low to moderately erodible soils directly disturbed at accessible shoreline areas and approximately 34 acres in Ferry Swale. Direct and indirect impacts on soils and geology along GMP roads from conventional motor vehicles, OHVs, and street-legal ATVs would be similar to but more intense than alternative A.	Direct adverse impacts from crushing, shearing, compaction, and erosion on 250 acres of soil and geology at Lone Rock Beach; and approximately 1,100 acres at four accessible shorelines. Approximately 138 acres of low to moderately erodible soils directly disturbed at accessible shoreline areas. Beneficial impacts on soils and geology at Lone Rock Beach Play Area, 11 accessible shorelines, and Ferry Swale as a result of discontinuation of off-road use. Direct and indirect impacts on soils and geology along GMP roads from conventional motor vehicle would be similar to but less intense than alternative A.	Direct adverse impacts from crushing, shearing, compaction, and erosion on 250 acres of soil and geology at Lone Rock Beach; 180 acres at Lone Rock Beach Play Area, and approximately 6,000 acres at 14 accessible shorelines; and along approximately 15 miles of ORV routes at Ferry Swales. Beneficial impacts on soils at Warm Creek from discontinuation of off-road use. Approximately 888 acres of low to moderately erodible soils directly disturbed at accessible shoreline areas and approximately 34 acres in Ferry Swale. Direct and indirect impacts on soils and geology along paved GMP roads from conventional motor vehicles and street-legal ATVs would be the same as alternative A and more intense along unpaved GMP roads from conventional motor vehicles, OHVs, and street-legal ATVs.
Vegetation	Direct adverse impacts on vegetation communities consisting primarily of grasses, weeds, and bushes at Lone Rock Beach and Lone Rock Beach Play Area. Direct impact on vegetation at 13 accessible shorelines consisting primarily of blackbrush (416 acres), sand sagebrush (933 acres), and shadscale (612 acres) –dominant shrub species in upland shrublands of Glen Canyon. No direct impacts on vegetation from conventional motor vehicle and street-legal ATV use along paved GMP roads. Approximately 791 acres of blackbrush and 595 acres of shadscale directly impacted and 3,857 acres of blackbrush and 2,855 acres of shadscale indirectly impacted along unpaved GMP roads. Direct and indirect impacts on vegetation along 53 miles of designated ORV routes – primarily to shadscale and fourwing saltbrush.	Beneficial impacts on vegetation at Lone Rock Beach, Lone Rock Beach Play Area; 15 accessible shorelines; and Ferry Swale from discontinuation of off-road use in Glen Canyon. Direct and indirect impacts on vegetation along GMP roads from conventional motor vehicles and street-legal ATVs would be the same as alternative A.	Direct adverse impacts on vegetation communities consisting primarily of grasses, weeds, and bushes at Lone Rock Beach and Lone Rock Beach Play Area. Direct impact on vegetation at 15 accessible shorelines consisting primarily of blackbrush (688 acres), sand sagebrush (933 acres), and shadscale (1,684 acres). Direct and indirect impacts on vegetation along GMP roads from conventional motor vehicles, OHVs, and street-legal ATVs would be similar to but more intense than alternative A. Direct and indirect impacts on vegetation along 15 miles of designated ORV routes – primarily to shadscale.	Direct adverse impacts on vegetation communities consisting primarily of grasses, weeds, and bushes at Lone Rock Beach. Continued direct impacts on vegetation at four accessible shorelines consisting primarily of blackbrush (166 acres) and shadscale (215 acres) –dominant shrub species in upland shrublands of Glen Canyon. Direct and indirect impacts on vegetation along GMP roads from conventional motor vehicles would be similar to but less intense than alternative A. No direct or indirect impacts on vegetation at Lone Rock Beach Play Area or Ferry Swale as a result of discontinuation of off-road use.	Direct adverse impacts on vegetation communities consisting primarily of grasses, weeds, and bushes at Lone Rock Beach and Lone Rock Beach Play Area. Direct impact on vegetation at 14 accessible shorelines consisting primarily of blackbrush (688 acres), sand sagebrush (933 acres) and shadscale (1,561 acres). Beneficial impacts on vegetation at Warm Creek from discontinuation of off-road use. Direct and indirect impacts on vegetation along paved GMP roads from conventional motor vehicles and street-legal ATVs would be the same as alternative A and more intense than alternative A along unpaved GMP roads from conventional motor vehicles, OHVs, and street-legal ATVs. Direct and indirect impacts on vegetation along 15 miles of designated ORV routes – primarily to shadscale.



IMPACT TOPIC	Alternative A: No Action	Alternative B: No Off-road Use	Alternative C: Increased Motorized Access	Alternative D: Decreased Motorized Access	Alternative E: Mixed Use (NPS Preferred Alternative)
Wildlife and Wildlife Habitat	Direct adverse impacts on wildlife and wildlife habitat at Lone Rock Beach, Lone Rock Beach Play Area, approximately 5,900 acres at 13 accessible shorelines, and along 53 miles of designated ORV routes in Ferry Swale as a result of disturbance, dust, displacement, vehicle-wildlife collisions, noise, and habitat destruction. Direct and indirect adverse impacts on wildlife along GMP roads from habitat disturbance and reduction, dust, and habitat fragmentation; and to wildlife habitat from erosion and sedimentation and potential for transport of invasive species.	Beneficial impacts on wildlife and wildlife habitat at Lone Rock Beach, Lone Rock Beach Play Area, 15 accessible shorelines, and Ferry Swale from discontinuation of off-road use. Direct and indirect impacts on wildlife and wildlife habitat along GMP roads from conventional motor vehicles and street-legal ATVs would be the same as alternative A.	Direct adverse impacts on wildlife and wildlife habitat at Lone Rock Beach, Lone Rock Beach Play Area, approximately 7,300 acres at 15 accessible shorelines, and concentrated along 15 miles of designated ORV routes in Ferry Swale as a result of disturbance, displacement, vehicle-wildlife collisions, noise, and habitat destruction. Direct and indirect impacts on vegetation along GMP roads from conventional motor vehicles, OHVs, and street-legal ATVs would be similar to but more intense than alternative A.	Direct adverse impacts on wildlife and wildlife habitat at Lone Rock Beach and at approximately 1,100 acres at four accessible shorelines as a result of disturbance, displacement, vehicle-wildlife collisions, noise, and habitat destruction. Beneficial impacts on wildlife and wildlife habitat at 11 accessible shorelines and Ferry Swale as a result of discontinuation of off-road use. Direct and indirect impacts on vegetation along GMP roads from conventional motor vehicles would be similar to but less intense than alternative A.	Direct adverse impacts on wildlife and wildlife habitat at Lone Rock Beach, Lone Rock Beach Play Area, and approximately 6,000 acres at 14 accessible shorelines as a result of disturbance, displacement, vehicle-wildlife collisions, noise, and habitat destruction. Beneficial impacts on wildlife and wildlife habitat at Warm Creek as a result of discontinuation of off-road use. Impacts at Ferry Swale would be the same as alternative C. Direct and indirect impacts on wildlife and wildlife habit along paved GMP roads from conventional motor vehicles and street-legal ATVs would be the same as alternative A and more intense than alternative A along unpaved GMP roads from conventional motor vehicles, OHVs, and street-legal ATVs.
Special-status Species	<p>Adverse impacts on special-status species at Lone Rock Beach, Lone Rock Beach Play Area, 13 accessible shorelines, and along 53 miles of designated ORV routes in Ferry Swale as a result of habitat destruction, vehicle-wildlife collisions, and species disturbance and displacement. Adverse impacts on special-status species along GMP roads from habitat disturbance and reduction, dust, and habitat fragmentation; and to their habitat from erosion and sedimentation, and potential for transport of invasive species.</p> <p>Alternative A may affect, but is not likely to adversely affect the following federally or state-listed, or Glen Canyon species of concern. No effect on federally listed southwestern willow flycatcher, yellow-billed cuckoo, Brady pincushion cactus, Navajo sedge, and Jones’ cycladenia are expected as these species are not known to occur in habitat that would be impacted by management actions.</p>	<p>Beneficial impacts on special-status species at Lone Rock Beach, Lone Rock Beach Play Area, 15 accessible shorelines, and Ferry Swale as a result of discontinuation of off-road use. Impacts on special-status species along GMP roads from conventional motor vehicles and street-legal ATVs would be the same as alternative A.</p> <p>Alternative B may affect, but is not likely to adversely affect the following federally or state-listed, or Glen Canyon species of concern. No effect on federally-listed southwestern willow flycatcher, yellow-billed cuckoo, Brady pincushion cactus, Navajo sedge, and Jones’ cycladenia are expected as these species are not known to occur in habitat that would be impacted by management actions</p>	<p>Adverse impacts on special-status species at Lone Rock Beach, Lone Rock Beach Play Area, 15 accessible shorelines, and along 15 miles of designated ORV routes Ferry Swale as a result of habitat destruction, vehicle-wildlife collisions, and species disturbance and displacement. Impacts on special-status species along GMP roads from conventional motor vehicles, OHVs, and street-legal ATVs would be similar to but more intense as alternative A.</p> <p>Alternative C may affect, but is not likely to adversely affect the following federally or state-listed, or Glen Canyon species of concern. No effect on federally-listed southwestern willow flycatcher, yellow-billed cuckoo, Brady pincushion cactus, Navajo sedge, and Jones’ cycladenia are expected as these species are not known to occur in habitat that would be impacted by management actions</p>	<p>Adverse impacts on special-status species at Lone Rock Beach and four accessible shorelines as a result of habitat destruction, vehicle-wildlife collisions, and species disturbance and displacement. Beneficial impacts on special-status species at Lone Rock Beach Play Area and Ferry Swale plus 11 accessible shorelines as a result of discontinuation of off-road use. Impacts on special-status species along GMP roads from conventional motor vehicles would be similar to but potentially less intense than alternative A.</p> <p>Alternative D may affect, but is not likely to adversely affect the following federally or state-listed, or Glen Canyon species of concern. No effect on federally listed southwestern willow flycatcher, yellow-billed cuckoo, Brady pincushion cactus, Navajo sedge, and Jones’ cycladenia are expected as these species are not known to occur in habitat that would be impacted by management actions.</p>	<p>Adverse impacts on special-status species at Lone Rock Beach, Lone Rock Beach Play Area, and 14 accessible shorelines as a result of habitat destruction, vehicle-wildlife collisions, and species disturbance and displacement. Beneficial impacts on special-status species at Warm Creek as a result of discontinuation of off-road use. Impacts at Ferry Swale would be the same as alternative C. Impacts on special-status species along paved GMP roads from conventional motor vehicles and street-legal ATVs would be the same as alternative A and more intense along unpaved GMP roads from conventional motor vehicles, OHVs, and street-legal ATVs.</p> <p>Alternative E may affect, but are not likely to adversely affect the following federally or state-listed, or Glen Canyon species of concern. No effect on federally listed southwestern willow flycatcher, yellow-billed cuckoo, Brady pincushion cactus, Navajo sedge, and Jones’ cycladenia are expected as these species are not known to occur in habitat that would be impacted by management actions</p>

Table 4: Environmental Impact Summary by Alternative

IMPACT TOPIC	Alternative A: No Action	Alternative B: No Off-road Use	Alternative C: Increased Motorized Access	Alternative D: Decreased Motorized Access	Alternative E: Mixed Use (NPS Preferred Alternative)
Soundscapes	Direct impacts as a result of noise generated from conventional motor vehicles, OHVs, and street-legal ATVs total 362,269 acres of land (28.88% of the Glen Canyon land area). These areas could potentially experience a 3-dBA increase in natural ambient due to motorized vehicle operations. During times when no motorized vehicles are operating in a particular area, no impacts would occur.	Direct impacts as a result of noise generated from conventional motor vehicles, OHVs, and street-legal ATVs total 351,408 acres of land (28.02% of the Glen Canyon land area). These areas could potentially experience a 3-dBA increase in natural ambient due to motorized vehicle operations. During times when no motorized vehicles are operating in a particular area, no impacts would occur. The degree and geographic extent of impacts on soundscapes would be substantially decreased through implementation of the 96-dBA limit on OHVs and street-legal ATVs (80,906 fewer acres within the direct impact noise effect zone or 21.57% of Glen Canyon).	Direct impacts as a result of noise generated from conventional motor vehicles, OHVs, and street-legal ATVs total 479,270 acres of land (38.21% of the Glen Canyon land area). These areas could potentially experience a 3-dBA increase in natural ambient due to motorized vehicle operations. During times when no motorized vehicles are operating in a particular area, no impacts would occur. The degree and geographic extent of impacts on soundscapes would be substantially increased through implementation of the 96-dBA limit on OHVs and street-legal ATVs (101,715 fewer acres within the direct impact noise effect zone or 30.10% of Glen Canyon land area).	Direct impacts as a result of noise generated from conventional motor vehicles total 6,351 acres of land (0.51% of the Glenn Canyon land area). These areas could potentially experience a 3-dBA increase in natural ambient due to conventional vehicle operations. During times when no motorized vehicles are operating in a particular area, no impacts would occur. The degree and geographic extent of impacts on soundscapes would not be affected by the 96-dBA limit because no OHV or street-legal ATV use would be allowed (the limit only applies to OHVs and street-legal ATVs).	Direct impacts as a result of noise generated from conventional motor vehicles, OHVs, and street-legal ATVs total 373,135 acres of land (28.75% of the Glen Canyon land area). These areas could potentially experience a 3-dBA increase in natural ambient due to motorized vehicle operations. During times when no motorized vehicles are operating in a particular area, no impacts would occur. The degree and geographic extent of impacts on soundscapes would be substantially increased through implementation of the 96-dBA limit on OHVs and street-legal ATVs (82,190 fewer acres within the direct impact noise effect zone or 23.20% of Glen Canyon).
Visitor Use and Experience	Current visitor use patterns would continue at Lone Rock Beach, Lone Rock Beach Play Area, and 13 accessible shorelines. Some visitor experience could be diminished at Lone Rock Beach, Lone Rock Beach Play Area, and Ferry Swale as a result of noise and air emissions produced by OHVs and street-legal ATVs. No measurable changes are expected on visitors using conventional motor vehicles or street-legal ATVs on GMP roads. Visitors seeking a quiet, backcountry experience may be adversely impacted by the noise street-legal ATVs produce in the more remote areas of Glen Canyon.	Visitor use patterns would be considerably impacted at Lone Rock Beach, Lone Rock Beach Play Area, 15 accessible shorelines, and Ferry Swale due to the discontinuation of off-road use. Although visitors would not be able to engage in off-road use in these areas, they would still be able to access the sites by parking at the end of the road and walking to the site. Impacts on visitor use and experience from conventional motor vehicles and street-legal ATVs on GMP roads would be the same as alternative A.	Impacts on visitor use and experience at Lone Rock Beach and Lone Rock Beach Play Area would be similar to alternative A, but with an additional small adverse impact on visitor experience with the requirement to obtain a permit. An increase in number of accessible shorelines and authorization of OHVs and street-legal ATVs for use at accessible shorelines, in addition to conventional motor vehicles, would increase the areas available for OHVs and street-legal ATV opportunities and provide a beneficial impact for these users. Expansion and authorization of OHV and street-legal ATV use at accessible shorelines could result in adverse impacts on visitors seeking a quieter experience as a result of increase in noise and air emissions from OHVs and street-legal ATVs. Impacts on visitor use and experience from conventional motor vehicles, OHVs, and street-legal ATVs on GMP roads would be similar to but more intense and widespread than alternative A.	Impacts on visitor use and experience at Lone Rock Beach would be similar to alternative A, but with an additional small adverse impact on visitor experience with the requirement to obtain a permit. Visitor use patterns would be considerably impacted at Lone Rock Beach Play Area and Ferry Swale as a result of discontinuation of off-road use in these areas, resulting in severe adverse impacts. Four accessible shoreline areas would remain available for use by conventional motor vehicles, but depending on the level of use, visitors may experience a negative impact from increased crowding. However, generally, visitor experience at these shoreline areas would not be noticeably impacted and overall visitor use patterns would not likely change because two of the four accessible shorelines already experience high visitation comparable to other accessible shorelines. Visitor use patterns would change substantially as access by OHVs or street-legal ATVs within Glen Canyon would not be authorized.	Impacts on visitor use and experience at Lone Rock Beach, Lone Rock Beach Play Area, and Ferry Swale would be similar to alternative C. An increase in number of accessible shorelines and authorization of street-legal ATVs for use at accessible shorelines, in addition to conventional motor vehicles, would increase the areas available for street-legal ATV opportunities and provide a beneficial impact for those users. Expansion and authorization of street-legal ATV use at accessible shorelines could result in adverse impacts on visitors seeking a quieter experience as a result of increase in noise and air emissions from street-legal ATVs. Impacts on visitor use and experience from conventional motor vehicles and street-legal ATVs on paved GMP roads would be the same as alternative A and more intense and widespread from on unpaved GMP roads from conventional motor vehicles, OHVs, and street-legal ATVs.
Archeology	Direct adverse impacts on archeological resources could involve 3 not evaluated sites in Lone Rock Beach Play Area; 3 eligible sites and 2 not evaluated sites at accessible shorelines; and 6 eligible sites and 3 not evaluated sites in Ferry Swale. Indirect impacts on archeological resources could involve 3 not evaluated sites at Lone Rock Beach; 1 not evaluated site at Lone Rock Beach Play Area; and 19 eligible sites and 37 not evaluated sites at accessible shorelines; and 17 eligible sites and 6 not evaluated sites along GMP roads.	Indirect adverse impacts on archeological resources could involve 17 eligible sites and 6 not evaluated sites along GMP roads.	Direct adverse impacts on archeological resources could involve 3 not evaluated sites in Lone Rock Beach Play Area; 6 eligible sites and 4 not evaluated sites at accessible shorelines; and 6 eligible sites and 3 not evaluated sites in Ferry Swale. Indirect impacts on archeological resources could involve 3 not evaluated sites at Lone Rock Beach; 1 not evaluated site at Lone Rock Beach Play Area; and 19 eligible sites and 37 not evaluated sites at accessible shorelines; and 39 eligible sites and 23 not evaluated sites along GMP roads.	Indirect impacts on archeological resources could involve 3 not evaluated sites at Lone Rock Beach; 8 eligible sites and 5 not evaluated sites at accessible shorelines; and no eligible sites or not evaluated sites along GMP roads.	Direct adverse impacts on archeological resources could involve 3 not evaluated sites in Lone Rock Beach Play Area; 6 eligible sites and 2 not evaluated sites at accessible shorelines; and 6 eligible sites and 3 not evaluated sites in Ferry Swale. Indirect impacts on archeological resources could involve 3 not evaluated sites at Lone Rock Beach; 1 not evaluated site at Lone Rock Beach Play Area; and 19 eligible and 37 not evaluated sites at accessible shorelines; and 17 eligible sites and 6 not evaluated sites along GMP roads.

IMPACT TOPIC	Alternative A: No Action	Alternative B: No Off-road Use	Alternative C: Increased Motorized Access	Alternative D: Decreased Motorized Access	Alternative E: Mixed Use (NPS Preferred Alternative)
Ethnographic Resources	Beneficial impact as a result of continued access to the Hole-in-the Rock traditional cultural property (TCP) site by members of The Church of Jesus Christ of Latter-day Saints for permitted activities. Potential for indirect adverse impacts on the Hole-in-the-Rock and potentially National Register-eligible Hole-in-the-Rock landscape TCP as a result of conventional motor vehicles and street-legal ATVs allowed on the Hole-in-the-Rock Road (an unpaved GMP road).	Impacts would be the same as alternative A.	Increased beneficial impacts for members of The Church of Jesus Christ of Latter-day Saints as a result of continued and increased access (by conventional motor vehicles, OHVs, and street-legal ATVs on Hole-in-the-Rock Road) to the Hole-in-the Rock TCP site for permitted activities. Increased potential for indirect adverse impacts on the Hole-in-the-Rock and potentially National Register-eligible Hole-in-the-Rock landscape TCP as a result of conventional motor vehicles, OHVs, and street-legal ATVs allowed on the Hole-in-the-Rock Road.	Decreased beneficial impacts for members of The Church of Jesus Christ of Latter-day Saints as a result of continued but decreased access (only by conventional motor vehicles on Hole-in-the-Rock Road) to the Hole-in-the Rock TCP site for permitted activities. Decreased potential for indirect adverse impacts on the Hole-in-the-Rock and potentially National Register eligible Hole-in-the-Rock landscape TCP as a result of reduction in the type of motor vehicles (conventional motor vehicles only) allowed on the Hole-in-the-Rock Road.	Impacts would be the same as alternative C, as the Hole-in-the-Rock would be accessed by conventional motor vehicles, OHVs, and street-legal ATVs.
Socioeconomics	The current level of visitation at Glen Canyon is expected to continue. Visitation and use of Lone Rock Beach, Lone Rock Beach Play Area, 13 accessible shorelines, and Ferry Swale is expected to continue, beneficially contributing to local economies and supporting jobs, income, and gross regional product. The ability to continue to ride conventional motor vehicles and street-legal ATVs on GMP roads would likely have a minimal impact on socioeconomic resources. Use of 53 miles of designated ORV routes in Ferry Swale would have limited impacts on socioeconomic resources.	Potential adverse impacts would occur with decreased visitor spending as a result of discontinuation of off-road use within Glen Canyon. Impacts on socioeconomic resources from use of GMP roads by conventional motor vehicles and street-legal ATVs would be the same as alternative A.	Visitation and use of Lone Rock Beach and Lone Rock Beach Play Area would remain similar to alternative A, beneficially contributing to local economies and supporting jobs, income, and gross regional product; although a permit system may discourage a small amount of visitation to these sites. Additional opportunities for OHV and street-legal ATV use at the 15 accessible shorelines and on GMP roads could also contribute to the local economy. Because off-road use has been rapidly increasing in Utah and Arizona, allowing OHVs and street-legal ATVs at accessible shorelines could result in increased visitation to these areas. Beneficial impacts on socioeconomic resources from use of GMP roads and 15 miles of designated ORV routes in Ferry Swale by conventional motor vehicles, OHVs, and street-legal ATVs would be limited.	Prohibition of OHV and street-legal ATVs within Glen Canyon would lead to decreased visitation by these types of vehicles at Lone Rock Beach and Lone Rock Beach Play Area, although this portion of visitation is very small. Visitation overall within Glen Canyon would be expected to slightly decrease, with slight adverse effects on local economies. The loss of visitation at 11 accessible shoreline areas where off-road use would be discontinued would adversely impact local economies (assumed to equal the total visitation at Stanton Creek – approximately 14,000 annual visitors) with a potential loss of \$2.3 million in visitor spending and 28 jobs. These economic impacts would account for a very small portion of the employment and economic activity in the study area. Impacts on socioeconomic resources from use of GMP roads by conventional motor vehicles would be limited.	Impacts on socioeconomic resources would be expected to be the similar to those described under alternative C, where visitation and visitor spending associated with users at Lone Rock Beach, Lone Rock Beach Play Area, and Ferry Swale would continue to beneficially contribute and support local economies. Additional opportunities would beneficially contribute to local economies as a result of expanded street-legal ATV use at the 14 accessible shorelines and OHV uses on unpaved GMP roads. Because off-road use has been rapidly increasing in Utah and Arizona, allowing street-legal ATVs at accessible shorelines could result in increased visitation to these areas. However, it is expected that beneficial effects on local economies would be limited.
Health and Safety	Adverse impacts on health and safety as conventional motor vehicles, OHVs, and street-legal ATVs would be allowed to operate together at Lone Rock Beach, Lone Rock Beach Play Area, along 53 miles of designated ORV routes at Ferry Swale.	Beneficial impacts on health and safety of conventional motor vehicle users, OHV users, and street-legal ATV users, as off-road use would be eliminated from Lone Rock Beach, Lone Rock Beach Play Area, all accessible shorelines areas, and Ferry Swale.	Adverse impacts on health and safety as conventional motor vehicles, OHVs and street-legal ATVs would be allowed to operate together at Lone Rock Beach, Lone Rock Beach Play Area, at 15 accessible shorelines, along GMP roads, and along 15 miles of designated ORV routes at Ferry Swale. Additional requirement for ORV permit and flag at Lone Rock Beach Play Area would provide some beneficial impacts.	Beneficial impacts on health and safety of conventional vehicle users, OHV users, and street-legal ATV users, as off-road use would be eliminated from Lone Rock Beach Play Area and Ferry Swale. Additional beneficial impacts as a result of only conventional vehicles authorized for use within Glen Canyon – at Lone Rock Beach and four authorized accessible shorelines.	Adverse impacts for health and safety as conventional motor vehicles, OHVs, and street-legal ATVs would be allowed to operate together at Lone Rock Beach, Lone Rock Beach Play Area, along unpaved GMP roads, and along 15 miles of designated ORV routes at Ferry Swale. Additional requirement for ORV permit and flag at Lone Rock Beach Play Area would provide some beneficial impacts, similar to alternative C.



Table 4: Environmental Impact Summary by Alternative

IMPACT TOPIC	Alternative A: No Action	Alternative B: No Off-road Use	Alternative C: Increased Motorized Access	Alternative D: Decreased Motorized Access	Alternative E: Mixed Use (NPS Preferred Alternative)
Paleontological Resources	Adverse impacts on paleontological resources stemming from erosion as a result of motor vehicle use on 250 acres Lone Rock Beach, 180 acres at Lone Rock Beach Play Area, approximately 5,900 acres at 13 accessible shorelines, and along approximately 53 miles of ORV routes at Ferry Swale. Approximately 1,057 acres of geologic formation with varying degrees of trace paleontological resources (including Organ Rock, Moenkopi, Chinle, Tropic Shale, and Carmel Formations) directly disturbed at accessible shoreline areas and approximately 155 acres in Ferry Swale. No direct impacts on paleontological resources from conventional motor vehicle and street-legal ATV use on paved GMP roads; direct impacts on approximately 2,000 acres and indirect impacts on approximately 5,400 acres of geologic formations with potential for paleontological resources along unpaved GMP roads.	Beneficial impacts on paleontological resources at approximately 250 acres at Lone Rock Beach, 180 acres at Lone Rock Beach Play Area, 7,300 acres at 15 accessible shorelines, and Ferry Swale from discontinuation of off-road use in Glen Canyon. Direct and indirect impacts on paleontological resources along GMP roads from conventional motor vehicles and street-legal ATVs would be the same as alternative A.	Adverse impacts on paleontological resources stemming from erosion as a result of motor vehicle use on 250 acres Lone Rock Beach, 180 acres at Lone Rock Beach Play Area, approximately 7,300 acres at 15 accessible shorelines, and along approximately 15 miles of ORV routes at Ferry Swale. Approximately 1,152 acres of geologic formation with varying degrees of trace paleontological resources (including Organ Rock, Moenkopi, Chinle, Tropic Shale, and Carmel Formations) directly disturbed at accessible shoreline areas and approximately 11 acres in Ferry Swale. Direct and indirect impacts on paleontological resources along GMP roads from conventional motor vehicles, OHVs, and street-legal ATVs would be similar to alternative A.	Adverse impacts on paleontological resources stemming from erosion as a result of motor vehicle use on 250 acres Lone Rock Beach and approximately 1,100 acres at 4 accessible shorelines. Approximately 230 acres of geologic formation with varying degrees of trace paleontological resources (including Organ Rock, Moenkopi, Chinle, Tropic Shale, and Carmel Formations) directly disturbed at accessible shoreline areas. No direct or indirect impacts at Lone Rock Beach Play Area, 11 accessible shorelines and Ferry Swale from discontinuation of off-road use in those areas. Impacts on paleontological resources along GMP roads from conventional motor vehicles, would be similar to alternative A.	Adverse impacts on paleontological resources stemming from erosion as a result of motor vehicle use on 250 acres Lone Rock Beach, 180 acres at Lone Rock Beach Play Area, approximately 6,000 acres at 14 accessible shorelines, and along approximately 15 miles of ORV routes at Ferry Swale. Beneficial impacts on paleontological resources at Warm Creek from discontinuation of off-road use. Approximately 1,074 acres of geologic formation with varying degrees of trace paleontological resources (including Organ Rock, Moenkopi, Chinle, Tropic Shale, and Carmel Formations) directly disturbed at accessible shoreline areas and approximately 11 acres in Ferry Swale. Impacts on paleontological resources along paved GMP roads from conventional motor vehicles, and street-legal ATVs and along unpaved GMP roads from conventional motor vehicles, OHVs, and street-legal ATVs would be similar to alternative A.
Wilderness	Without the 96-dBA limit, 16.13% of proposed wilderness areas would be directly impacted by motor vehicle noise.	With the 96-dBA limit, 10.63% of proposed wilderness areas would be directly impacted by motor vehicle noise.	With the 96-dBA limit, 17.15% of proposed wilderness areas would be directly impacted by motor vehicle noise.	With (and without the 96-dBA limit) 0.11% of proposed wilderness areas would be directly impacted by motor vehicle noise. The degree and geographic extent of impacts on soundscapes and thus wilderness would not be affected by the 96-dBA limit because no OHV or street-legal ATV use would be allowed (the limit only applies to OHVs and street-legal ATVs).	With the 96-dBA limit, 10.74% of proposed wilderness areas would be directly impacted by motor vehicle noise.

