

Appendix B – Class C Costs

Bullforg cost estimate

Number	Item	Unit	Unit Cost	Quantity	Extended cost	Notes and/or assumptions
Employee, Concessioner, and Partner Housing						
Alternative A			Total		\$0.00	
No cost associated with Alternative A						
Alternative B			Total		\$2,654,586.00	
Site Development - Demolition	LS	\$311,220.00	1	\$311,220.00	Includes clearing and grubbing 27.3 acres of land. Housing includes: 1) 4 NPS 3-bedroom houses that are 1,300 square feet. 2) One concessioner dormitory that is 3,000 square feet. 3) 6 partner 3-bedroom houses that are 1,300 square feet.	
Site Development - New Housing	LS	\$1,871,000.00	1	\$1,871,000.00	Cost of upgrade is 50% the cost of a new RV site.	
Site Development - Upgrade RV Park	LS	\$272,400.00	1	\$272,400.00	Landscaping is 10% the cost of each housing unit. Includes earthwork, seeding, and planting shrubs and small trees.	
Site Rehabilitation - Landscaping	LS	\$187,100.00	1	\$187,100.00	Reclaim the land using native plants.	
Site Rehabilitation - Reclaim concessioner RV park	LS	\$12,866.00	1	\$12,866.00		
Alternative C			Total		\$2,654,586.00	
Same as Alternative B						
Visitor Overnight Accommodations						
Alternative A			Total		\$0.00	
No cost associated with Alternative A						
Alternative B			Total		\$5,229,256.00	
Site Development - Demolition	LS	\$79,800.00	1	\$79,800.00	Assume that medium grubbing is required for site preparation. 6.6 acres is for family rental units and 0.4 acres is for the lodge.	
Site Removal - Removal of existing family rental units	LS	\$40,000.00	1	\$40,000.00	Assume that it costs \$5,000 to remove each of the 8 modular homes. Expansion includes 60 rooms. Assume that each room is 400 square feet and construction costs are \$80.00 per square foot.	
Site Development - Expand Lodge	LS	\$1,920,000.00	1	\$1,920,000.00	Each modular house is 800 square feet. Includes the replacement of the existing 8 family rental units and 34 additional family rental units.	
Site Development - Add Family Rental Units	LS	\$2,724,960.00	1	\$2,724,960.00	Landscaping is 10% the cost of each housing unit. Includes earthwork, seeding, and planting shrubs and small trees.	
Site Rehabilitation - Landscaping	LS	\$464,496.00	1	\$464,496.00		
Alternative C			Total		\$5,229,256.00	
Same as Alternative B						
Visitor Camping						
Alternative A			Total		\$0.00	
No cost associated with Alternative A						
Alternative B			Total		\$2,513,631.00	
Site Development - Demolition	LS	\$4,560.00	1	\$4,560.00	Assume that medium grubbing is required for site preparation. 0.4 acres will need to be prepared for the RV park. The plan calls for 128 additional sites for the campground. Assume that 85 will be with hookups and 37 will not include RV hookups. 6 sites will be a pod of group campsites, each site accommodating 15 people. Price includes additional restroom facilities, roads, and other improvements.	
Site Development - Camp sites	LS	\$260,110.00	1	\$260,110.00	The plan calls for 128 additional sites for the campground. Assume that 85 will be with hookups and 37 will not include RV hookups. 6 sites will be a pod of group campsites, each site accommodating 15 people. Price includes additional restroom facilities, roads, and other improvements.	
Site Development - RV sites	LS	\$1,929,500.00	1	\$1,929,500.00	Class C estimating guide provides a cost per group site accommodating 25 people. Estimate cost for 6 sites accommodating 15 at 4 sites accommodating 25.	
Site Development - Group Campsites	LS	\$41,100.00	1	\$41,100.00	Amphitheater holds 50 visitors and costs \$1080 per seat. Landscaping costs are 10% of the building costs for all structures and camp sites.	
Site Development - Amphitheater	LS	\$54,000.00	1	\$54,000.00	Includes earthwork, seeding, and planting shrubs and small trees.	
Site Rehabilitation - Landscaping	LS	\$224,361.00	1	\$224,361.00		
Alternative C			Total		\$2,513,631.00	
Same as Alternative B						
Shower and Laundry Facilities						
Alternative A			Total		\$0.00	
No cost associated with Alternative A						

APPENDIX B: CLASS C COSTS

Bullforg cost estimate

Alternative B					
Total					\$249,150.00
Site Development - Shower and laundry facility	LS	\$226,500.00	1	\$226,500.00	Assume the building is 1500 square feet and the cost is \$151 per square foot. Landscaping costs are 10% of the building costs for all structures and camp sites.
Site Rehabilitation - Landscaping	LS	\$22,650.00	1	\$22,650.00	Includes earthwork, seeding, and planting shrubs and small trees.
Alternative C					
Total					\$249,150.00
Same as Alternative B					
Land based stores					
Alternative A					
Total					\$0.00
No cost associated with Alternative A					
Alternative B					
Total					\$328,000.00
Site Preparation	LS	\$21,600.00	1	\$21,600.00	Village Store will expand onto land where maintenance buildings have been moved. Site will require minor grading.
Site Development - Expand Village Center store	LS	\$150,000.00	1	\$150,000.00	Expansion will include food service and other family entertainment. Price is based upon an expansion of 1000 square feet with a price of \$150.00 per square foot.
Site Development - Construct general store at the campground	LS	\$119,000.00	1	\$119,000.00	Assume general store is 1000 square feet and the cost is similar to the building of a ranger station (\$119.00 per square foot).
Site Rehabilitation	LS	\$37,400.00	1	\$37,400.00	Landscaping is 10% the cost of each housing unit. Includes earthwork, seeding, and planting shrubs and small trees.
Alternative C					
Total					\$328,000.00
Same as Alternative B					
Land-Based Food Service					
Alternative A					
Total					\$0.00
No cost associated with Alternative A					
Alternative B					
Total					\$105,000.00
Site Development - Expand Anasazi Restaurant	LS	\$105,000.00	1	\$105,000.00	Assume expansion will cost \$1500 per seat for 70 additional seats.
Alternative C					
Total					\$105,000.00
Same as Alternative B					
Day use Facilities					
Alternative A					
Total					\$0.00
No cost associated with Alternative A					
Alternative B					
Total					\$0.00
Same as Alternative A					
Alternative C					
Total					\$0.00
Same as Alternative A					
Ranger Station/Visitor Contact Station and Emergency Facilities					
Alternative A					
Total					\$0.00
No cost associated with Alternative A					
Alternative B					
Total					\$0.00
Same as Alternative A					
Alternative C					
Total					\$0.00
Same as Alternative A					
Concessioner Boat Maintenance and Repair, and Property Maintenance Facilities					
Alternative A					
Total					\$0.00
No cost associated with Alternative A					

Bullforg cost estimate

Alternative B					
Total				\$106,433.00	
Site Demolition - Relocation of concessioner facilities	LS	\$100,000.00	1	\$100,000.00	Assume the cost is \$100,000 to move the all structures and clean up the site.
Site reclamation - Reclamation of land where concessioner maintenanc facilities were located.	LS	\$6,433.00	1	\$6,433.00	Reclaim the land using native plants.
Alternative C					
Total				\$106,433.00	
Same as Alternative B					
National Park Service Maintenance Facilities					
Alternative A					
Total				\$0.00	
No cost associated with Alternative A					
Alternative B					
Total				\$0.00	
Same as Alternative A					
Alternative C					
Total				\$153,534.00	
Site Demolition - Relocation of NPS facilities	LS	\$100,000.00	1	\$100,000.00	Assume the cost is \$100,000 to move the all structures and clean up the site.
Site Demolition - Clearing and grubbing	LS	\$29,640.00	1	\$29,640.00	Assume that medium grubbing is required for site preparation. Assume that one acre needs to be reclaimed.
Site reclamation - Reclamation of land where NPS maintenance facilitie were located.	LS	\$23,894.00	1	\$23,894.00	Reclaim the land using native plants. Assume one acre needs to be reclaimed.
Secured Storage					
Alternative A					
Total				\$0.00	
No cost associated with Alternative A					
Alternative B					
Total				\$1,705,900.00	
Site Demolition - Clearing and grubbing	LS	\$68,400.00	1	\$68,400.00	Assume that medium grubbing is required for site preparation.
Site Development - Secured spaces	LS	\$200,000.00	1	\$200,000.00	Assume it costs \$1000 per space and that the expansion includes 200 additional spaces. This includes paving, lighting, and other utilities that are required.
Site Development - Enclosed storage	LS	\$1,237,500.00	1	\$1,237,500.00	Assume 750 square feet per space for 35 space. Used vehicle storage building rate from estimating guide at \$33 per square foot.
Site Development - Perimeter screening	LS	\$200,000.00	1	\$200,000.00	Includes costs for 8ft high screen wall around secured storage and concessioner maintenance facilities at \$100 per linear foot.
Alternative C					
Total				\$1,705,900.00	
Same as Alternative B					
Utility Systems					
Alternative A					
Total				\$0.00	
No cost associated with Alternative A					
Alternative B					
Total				\$500,000.00	
Site Development - Expand energy system	LS	\$500,000.00	1	\$500,000.00	Assume it will cost \$500,000 to expand utility needs to the additional structures.
Alternative C					
Total				\$1,000,000.00	
Site Development - Expand energy system	LS	\$500,000.00	1	\$500,000.00	Assume it will cost \$500,000 to expand utility needs to the additional structures.
Site Development - Utilize solar and fuel cell technology.	LS	\$500,000.00	1	\$500,000.00	Assume it will cost \$500,000 to include solar and fuel cell technology
Roads and Parking					
Alternative A					
Total				\$0.00	
No cost associated with Alternative A					
Alternative B					
Total				\$0.00	
Same as Alternative A					
Alternative C					
Total				\$0.00	
Same as Alternative A					
Fee Collection					
Alternative A					
Total				\$0.00	

APPENDIX B: CLASS C COSTS

Bullfong cost estimate

No cost associated with Alternative A					
Alternative B	Total			\$130,900.00	
Site Development - Upgrade Fee collection booth.	LS	\$119,000.00	1	\$119,000.00	Assume fee collection booth expansion is 1000 square feet and the cost is similar to the building of a ranger station (\$119.00 per square foot). Landscaping costs are 10% of the building costs for all structures.
Site Rehabilitation - Landscaping	LS	\$11,900.00	1	\$11,900.00	
Alternative C	Total			\$130,900.00	
Same as Alternative B					
School					
Alternative A	Total			\$0.00	
No cost associated with Alternative A					
Alternative B	Total			\$500,000.00	
Site Development - Install library in existing school	LS	\$500,000.00	1	\$500,000.00	Assume that the library expansion will be 2000 square feet and cost \$250 per square foot including the price of books.
Alternative C	Total			\$500,000.00	
Same as Alternative B					
Airstrip					
Alternative A	Total			\$0.00	
No cost associated with Alternative A					
Alternative B	Total			\$0.00	
Same as Alternative A					
Alternative C	Total			\$0.00	
Same as Alternative A					
Boat Wash-Down Area					
Alternative A	Total			\$0.00	
No cost associated with Alternative A					
Alternative B	Total			\$60,000.00	
Site Development - Expansion of boat wash-down facility	LS	\$60,000.00	1	\$60,000.00	Assume that it will cost \$60,000 to expand the facilities including additional water sources, structures, and other costs.
Alternative C	Total			\$60,000.00	
Same as Alternative B					
Marina facilities					
Alternative A	Total			\$0.00	
No cost associated with Alternative A					
Alternative B	Total			\$55,000.00	
Site Development - Installation of buoy-field moorings	LS	\$55,000.00	1	\$55,000.00	Assume that it will cost \$1,000 per additional space for 55 extra spaces. These spaces are split with Hall's Crossing Marina but will be included here for cost purposes.
Alternative C	Total			\$223,000.00	
Site Development - Installation of buoy-field moorings	LS	\$55,000.00	1	\$55,000.00	Assume that it will cost \$1,000 per additional space for 55 extra spaces. These spaces are split with Hall's Crossing Marina but will be included here for cost purposes.
Site Development - Installation of wet slips	LS	\$168,000.00	1	\$168,000.00	Assume that it will cost \$3,000 per additional slip for 56 additional spaces. These spaces are split with Hall's Crossing Marina but will be included here for cost purposes.
Water-Based Store					
Alternative A	Total			\$0.00	
No cost associated with Alternative A					

Bullfong cost estimate

Alternative B					
Same as Alternative A				Total	\$0.00
Alternative C					
Same as Alternative A				Total	\$0.00
Water-Based Food Service					
Alternative A					
No cost associated with Alternative A				Total	\$0.00
Alternative B					
Site Development - Installation of 80-seat restaurant				LS	\$240,000.00
				1	\$240,000.00
Assume that the restaurant expansion will cost \$3,000 per seat.					
Alternative C					
Same as Alternative B				Total	\$240,000.00
Launch Ramps					
Alternative A					
No cost associated with Alternative A				Total	\$0.00
Alternative B					
Site Development - Extension of boat launch to water level				LS	\$86,136.00
				1	\$86,136.00
Assume that the ramp will need to be extended 100 feet over the next ten years at a minimum width of 80 feet.					
Alternative C					
Site Development - Extension of boat launch ramp to the water level at maximum width of 150 ft.				LS	\$161,505.00
				1	\$161,505.00
Assume that the ramp will need to be extended 100 feet over the next ten years at the maximum width of 150 feet.					
Launch Ramp Support					
Alternative A					
No cost associated with Alternative A				Total	\$0.00
Alternative B					
Same as Alternative A				Total	\$0.00
Alternative C					
Same as Alternative A				Total	\$0.00
Ferry Service					
Alternative A					
No cost associated with Alternative A				Total	\$0.00
Alternative B					
Same as Alternative A				Total	\$0.00
Alternative C					
Same as Alternative A				Total	\$0.00
River Runner Takeout					
Alternative A					
No cost associated with Alternative A				Total	\$0.00
Alternative B					
Same as Alternative A				Total	\$0.00
Alternative C					
Same as Alternative A				Total	\$0.00
Grand Total					
Alternative A					
				Total	\$0.00
Alternative B					
Concept Plan Contingency				25%	\$14,463,992.00
					\$3,615,998.00

APPENDIX B: CLASS C COSTS

Bullfrog cost estimate

Contractors, General Conditions, Profit, Bonds, and Overhead	12%	\$1,735,679.04	
Subtotal		\$19,815,669.04	Allowance for Planning and Design Fees
Architecture and Engineering Fees Allowance	20%	\$3,963,133.81	
Owners Construction Contingency	5%	\$990,783.45	
Total		\$24,769,586.30	
Alternative C	Total	\$15,360,895.00	
Concept Plan Contingency	25%	\$3,840,223.75	
Contractors, General Conditions, Profit, Bonds, and Overhead	12%	\$1,843,307.40	
Subtotal		\$21,044,426.15	Allowance for Planning and Design Fees
Architecture and Engineering Fees Allowance	20%	\$4,208,885.23	
Owners Construction Contingency	5%	\$1,052,221.31	
Total		\$26,305,532.69	

Hall Crossing Cost estimates

Number	Item	Unit	Unit Cost	Quantity	Extended cost	Notes and/or assumptions
Employee, Concessioner, and Partner Housing						
Alternative A		Total		\$0.00		
No cost associated with Alternative A						
Alternative B		Total		\$4,037,072.00		
	Site Demolition - Clearing and grubbing	LS	\$39,900.00	1	\$39,900.00	Assume that medium grubbing is required for site preparation.
	Site Removal - Removal of existing NPS and concessioner housing units	LS	\$250,000.00	1	\$250,000.00	Assume that it costs \$5,000 to remove one modular home. Housing includes: 1) 2 NPS 3-bedroom houses that are 1,300 square feet. 3) 4 partner 3-bedroom houses that are 1,300 square feet. 3) 50 800 square-foot modular homes to replace those that were removed.
	Site Development - Housing	LS	\$3,134,120.00	1	\$3,134,120.00	Includes the installation of 12 RV sites at \$22,700 per site.
	Site Development - RV sites	LS	\$272,400.00	1	\$272,400.00	Landscaping is 10% the cost of each housing unit. Includes earthwork, seeding, and planting shrubs and small trees.
	Site Rehabilitation - Landscaping	LS	\$340,652.00	1	\$340,652.00	
Alternative C		Total		\$4,037,072.00		
Same as Alternative B						
Overnight Visitor Accomodations						
Alternative A		Total		\$0.00		
No cost associated with Alternative A						
Alternative B		Total		\$4,448,200.00		
	Site Demolition - Clearing and grubbing	LS	\$66,120.00	1	\$66,120.00	Assume that medium grubbing is required for site preparation.
	Site Removal - Removal of existing family rental units	LS	\$100,000.00	1	\$100,000.00	Assume that it costs \$5,000 to remove one modular home. Each modular house is 800 square feet. Includes the replacement of the existing 20 family rental units and 40 new family rental units.
	Site Development - Add family rental units	LS	\$3,892,800.00	1	\$3,892,800.00	Landscaping costs are 10% of the building cost.
	Site Rehabilitation - Landscaping	LS	\$389,280.00	1	\$389,280.00	
Alternative C		Total		\$4,448,200.00		
Same as Alternative B						
Visitor Camping						
Alternative A		Total		\$0.00		
No cost associated with Alternative A						
Alternative B		Total		\$887,241.00		
	Site Demolition - Clearing and grubbing	LS	\$9,120.00	1	\$9,120.00	Assume that medium grubbing is required for site preparation.
	Site Development - RV sites	LS	\$181,600.00	1	\$181,600.00	Price is for an additional 8 RV sites at \$22,700 per site. Assume that the upgrade costs 50% the cost of a new campsite for 64 sites.
	Site Development - Upgrade campsites	LS	\$224,960.00	1	\$224,960.00	Assume that the upgrade costs 50% the cost of a RV site for 32 sites.
	Site Development - Upgrade RV sites	LS	\$363,200.00	1	\$363,200.00	Assume that the campground has four standard vault toilets and that the upgrade will cost 50% of the cost of a new toilet.
	Site Development - Upgrade restrooms	LS	\$30,200.00	1	\$30,200.00	Assume that an upgrade costs 50% of the cost of a new waste station.
	Site Development - Upgrade RV waste disposal station	LS	\$31,350.00	1	\$31,350.00	
	Site Development - Landscaping	LS	\$46,811.00	1	\$46,811.00	Landscaping costs are 10% of the building cost.
Alternative C		Total		\$946,130.00		
	Site Demolition - Clearing and grubbing	LS	\$66,120.00	1	\$66,120.00	Assume that medium grubbing is required for site preparation.
	Site Development - Upgrade campsites	LS	\$224,960.00	1	\$224,960.00	Assume that the upgrade costs 50% the cost of a new campsite for 64 sites.
	Site Development - Upgrade RV sites	LS	\$363,200.00	1	\$363,200.00	Assume that the upgrade costs 50% the cost of a RV site for 32 sites.
	Site Development - Camp sites	LS	\$70,300.00	1	\$70,300.00	The plan calls for 16 additional sites for the campground. Assume that 10 will be without hookups and 6 will include RV hookups. Price includes additional restroom facilities, roads, and other improvements.
	Site Development - RV sites	LS	\$136,200.00	1	\$136,200.00	The plan calls for 16 additional sites for the campground. Assume that 10 will be without hookups and 6 will include RV hookups. Price includes additional restroom facilities, roads, and other improvements.
	Site Development - Upgrade RV waste disposal station	LS	\$31,350.00	1	\$31,350.00	Assume that an upgrade costs 50% of the cost of a new waste station.

APPENDIX B: CLASS C COSTS

Hall Crossing Cost estimates

Site Development - Amphitheater	LS	\$54,000.00	1	\$54,000.00	Amphitheater holds 50 visitors and costs \$1080 per seat.
Site Development - Landscaping	LS	\$22,650.00	1	\$22,650.00	Landscaping costs are 10% of the building cost.
Shower and Laundry Facilities					
Alternative A		Total		\$0.00	
No cost associated with Alternative A					
Alternative B		Total		\$50,000.00	
Laundry and shower facilities found in the expanded Village Center general store.					
Site Demolition - Removal of shower/laundry facilities	LS	\$50,000.00	1	\$50,000.00	Assume that it will cost \$50,000 to remove the shower/laundry building and prepare the ground for reclamation.
Alternative C		Total		\$299,150.00	
Site Demolition - Removal of shower/laundry facilities	LS	\$50,000.00	1	\$50,000.00	Assume that it will cost \$50,000 to remove the shower/laundry building and prepare the ground for reclamation.
Site Development - Shower and laundry facility	LS	\$226,500.00	1	\$226,500.00	Assume the building is 1500 square feet and the cost is \$150 per square foot.
Site Rehabilitation - Landscaping	LS	\$22,650.00	1	\$22,650.00	Landscaping costs are 10% of the building cost.
Land-based Stores					
Alternative A		Total		\$0.00	
No cost associated with Alternative A					
Alternative B		Total		\$478,478.00	
Site Demolition - Clearing and grubbing	LS	\$4,560.00	1	\$4,560.00	Assume that medium grubbing is required for site preparation.
Site Demolition - Removal of existing Village Center store	LS	\$50,000.00	1	\$50,000.00	Assume that it will cost \$50,000 to remove the general store and prepare the ground for construction of the new store.
Site Demolition - Minor regrading of the fuel station area	LS	\$13,068.00	1	\$13,068.00	Assume that 0.5 acres will need minor regrading (top 2-3 inches). Assume that the price will be equal to the price for the building of a new shower/laundry facility (\$151.00 per square foot) and the size will be 2000 square feet.
Site Development - Construction of new general store	LS	\$302,000.00	1	\$302,000.00	Assume the size to be repaved is 0.5 acres
Site Development - Repave the fuel station area	LS	\$78,650.00	1	\$78,650.00	Assume the size to be repaved is 0.5 acres
Site Rehabilitation - Landscaping	LS	\$30,200.00	1	\$30,200.00	Landscaping costs are 10% of the building cost.
Alternative C		Total		\$644,578.00	
Site Demolition - Clearing and grubbing	LS	\$4,560.00	1	\$4,560.00	Assume that medium grubbing is required for site preparation.
Site Demolition - Removal of existing Village Center store	LS	\$50,000.00	1	\$50,000.00	Assume that it will cost \$50,000 to remove the general store and prepare the ground for construction of the new store.
Site Demolition - Minor regrading of the fuel station area	LS	\$13,068.00	1	\$13,068.00	Assume that 0.5 acres will need minor regrading (top 2-3 inches). Assume that the price will be equal to the price for the building of a new shower/laundry facility (\$151.00 per square foot) and the size will be 3000 square feet. The building will be larger than the one in Alternative B and includes room for a small snack bar.
Site Development - Construction of new general store	LS	\$453,000.00	1	\$453,000.00	Assume the size to be repaved is 0.5 acres
Site Development - Repave the fuel station area	LS	\$78,650.00	1	\$78,650.00	Assume the size to be repaved is 0.5 acres
Site Rehabilitation - Landscaping	LS	\$45,300.00	1	\$45,300.00	Landscaping costs are 10% of the building cost.
Land-Based Food Service					
Alternative A		Total		\$0.00	
No cost associated with Alternative A					
Alternative B		Total		\$0.00	
Food service facilities are included in the Village Center Store.					
Alternative C		Total		\$0.00	
Same as Alternative B					
Day-Use Facilities					
Alternative A		Total		\$0.00	
No cost associated with Alternative A					
Alternative B		Total		\$118,573.00	
Site Demolition - Clearing and grubbing	LS	\$4,560.00	1	\$4,560.00	Assume that medium grubbing is required for site preparation.
Site Development - Shade shelters	LS	\$36,760.00	1	\$36,760.00	Build four shade shelters at 100 square feet for each one.

Hall Crossing Cost estimates

Site Development - Picnic tables	LS	\$6,488.00	1	\$6,488.00	Install 8 picnic tables.
Site Development - Restroom facilities	LS	\$60,400.00	1	\$60,400.00	Install 4 regular vault toilets.
Site Rehabilitation - Landscaping	LS	\$10,364.80	1	\$10,364.80	Landscaping costs are 10% of the building cost.
Alternative C				Total	\$118,573.00
Same as Alternative B					
Ranger Station/Visitor Contact Station and Emergency Facilities					
Alternative A				Total	\$0.00
No cost associated with Alternative A					
Alternative B				Total	\$431,133 Same as Alternative A
Site Development - Establishment of a permanent helipad		\$431,133	1	\$431,133	Assume the helipad is 200 feet by 200 feet.
Alternative C				Total	\$669,133
Site Development - Establishment of a permanent helipad		\$431,133	1	\$431,133	Assume the helipad is 200 feet by 200 feet.
The building will serve as a visitor center, fire station, provide storage for emergency services and search and rescue equipment, and several ranger offices. Price is the same as a ranger station at \$119 per square foot and the building is 2000 square feet.					
Site Development - Construction of a visitor services/ranger station building	LS	\$238,000.00	1	\$238,000.00	
Concessioner Boat Maintenance and Repair, and Property Maintenance Facilities					
Alternative A				Total	\$0.00
No cost associated with Alternative A					
Alternative B				Total	\$100,000.00
Site Demolition - Relocation of maintenance facilities and secured storage	LS	\$100,000.00	1	\$100,000.00	Assume the cost is \$100,000 to move the all structures and clean up the site.
Alternative C				Total	\$100,000.00
Same as Alternative B					
National Park Service Maintenance Facilities					
Alternative A				Total	\$0.00
No cost associated with Alternative A					
Alternative B				Total	\$0.00
Same as Alternative A					
Alternative C				Total	\$0.00
Same as Alternative A					
Secured Storage					
Alternative A				Total	\$0.00
No cost associated with Alternative A					
Alternative B				Total	\$1,584,583.00
Site Demolition - Clearing and grubbing	LS	\$285,000.00	1	\$285,000.00	Assume that medium grubbing is required for site preparation.
Assume it costs \$1000 per space for 135 additional spaces. This includes paving, lighting, and other utilities that are required.					
Site Development - Installation of additional secured storage sites	LS	\$135,000.00	1	\$135,000.00	
Assume 750 square feet per space for 35 spaces. Used vehicle storage building rate from estimating guide at \$33 per square foot.					
Site Development - Installation of enclosed storage	LS	\$866,250.00	1	\$866,250.00	
Includes costs for 8ft high screen wall around secured storage and concessioner maintenance facilities at \$100 per linear foot.					
Site Development - Screen facilities from the public	LS	\$200,000.00	1	\$200,000.00	
Site reclamation - Reclaim land with native plants	LS	\$98,333.00	1	\$98,333.00	Reclaim the land using native plants.
Alternative C				Total	\$1,584,583.00
Same as Alternative B					

APPENDIX B: CLASS C COSTS

Hall Crossing Cost estimates

Utility Systems					
Alternative A		Total		\$0.00	
No cost associated with Alternative A					
Alternative B		Total		\$750,000.00	
Site Development - Expand energy system	LS	\$750,000.00	1	\$750,000.00	Assume it will cost \$750,000 to expand utility needs to the additional structures.
Alternative C		Total		\$1,250,000.00	
Site Development - Expand energy system	LS	\$750,000.00	1	\$750,000.00	Assume it will cost \$750,000 to expand utility needs to the additional structures.
Site Development - Utilize solar and fuel cell technology.	LS	\$500,000.00	1	\$500,000.00	Assume it will cost \$500,000 to include solar and fuel cell technology
Roads and Parking					
Alternative A		Total		\$0.00	
No cost associated with Alternative A					
Alternative B		Total		\$243,500.00	
Site Development - Gravel access road	LS	\$243,500.00	1	\$243,500.00	Assume that the road is 0.5 miles long and will be gravel.
Alternative C		Total		\$243,500.00	
Same as Alternative B					
Fee Collection					
Alternative A		Total		\$0.00	
No cost associated with Alternative A					
Alternative B		Total		\$0.00	
Same as Alternative A					
Alternative C		Total		\$0.00	
Same as Alternative A					
School					
Alternative A		Total		\$0.00	
No cost associated with Alternative A					
Alternative B		Total		\$0.00	
Same as Alternative A					
Alternative C		Total		\$0.00	
Same as Alternative A					
Airstrip					
Alternative A		Total		\$0.00	
No cost associated with Alternative A					
Alternative B		Total		\$0.00	
Same as Alternative A					
Alternative C		Total		\$0.00	
Same as Alternative A					
Boat Wash-Down Area					
Alternative A		Total		\$0.00	
No cost associated with Alternative A					
Alternative B		Total		\$90,000.00	
Site Development - Construct a boat wash-down facility	LS	\$90,000.00	1	\$90,000.00	Assume it costs \$90,000 to build a boat wash-down area with water hook-ups and other necessary utilities.
Alternative C		Total		\$90,000.00	
Same as Alternative B					
Marina Facilities					

Hull Crossing Cost estimates

Alternative A					Total	\$0.00
No cost associated with Alternative A						
Alternative B					Total	\$0.00
The cost for the new marina buoy field spaces is included in the estimate for Bullfrog Marina						
Alternative C					Total	\$0.00
The cost of the new marina buoy field spaces and wet slips is included in the estimate for Bullfrog Marina						
Site Development - Chip-sealed roads down to the marina facilities	LS	\$0.00	1	\$0.00	Assume that 0.5 miles will be chip sealed	
Water-Based Store						
Alternative A					Total	\$0.00
No cost associated with Alternative A						
Alternative B					Total	\$0.00
Same as Alternative A						
Alternative C					Total	\$0.00
Same as Alternative A						
Water-Based Food Service						
Alternative A					Total	\$0.00
No cost associated with Alternative A						
Alternative B					Total	\$300,000.00
Site Development - Construct a water-based food service facility	LS	\$300,000.00	1	\$300,000.00	Assume the building is 2000 square feet and costs \$150 per square foot to build.	
Alternative C					Total	\$300,000.00
Same as Alternative B						
Launch Ramps						
Alternative A					Total	\$0.00
No cost associated with Alternative A						
Alternative B					Total	\$86,136.00
Site Development - Extend the boat launch ramp to the water level	LS	\$86,136.00	1	\$86,136.00	Assume that the ramp will need to be extended 100 feet over the next ten years at a minimum width of 80 feet.	
Alternative C					Total	\$118,437.00
Site Development - Extension of boat launch ramp to the water level at maximum width of 110 ft.	LS	\$118,437.00	1	\$118,437.00	Assume that the ramp will need to be extended 100 feet over the next ten years at the maximum width of 110 feet.	
Launch Ramp Support						
Alternative A					Total	\$0.00
No cost associated with Alternative A						
Alternative B					Total	\$0.00
Same as Alternative A						
Alternative C					Total	\$0.00
Same as Alternative A						
Ferry Service						
Alternative A					Total	\$0.00
No cost associated with Alternative A						
Alternative B					Total	\$50,000.00
Site Development - Locate new ferry launch locations	LS	\$50,000.00	1	\$50,000.00	Assume it will cost \$50,000 to locate and establish new ferry launch locations as the lake levels drop.	
Alternative C					Total	\$50,000.00
Same as Alternative B						

APPENDIX B: CLASS C COSTS

Hall Crossing Cost estimates

River Runner Takeout			
Alternative A		Total	\$0.00
No cost associated with Alternative A			
Alternative B		Total	\$0.00
Same as Alternative A			
Alternative C		Total	\$0.00
Same as Alternative A			
Grand Total			
Alternative A		Total	\$0.00
Alternative B		Total	\$13,654,915.99
Concept Plan Contingency	25%		\$3,413,729.00
Contractors, General Conditions, Profit, Bonds, and Overhead	12%		\$1,638,589.92
Subtotal			\$16,707,234.91
Architecture and Engineering Fees Allowance	20%		\$3,741,446.98
Owners Construction Contingency	5%		\$935,361.75
Total			\$23,384,043.63
Alternative C		Total	\$14,899,355.99
Concept Plan Contingency	25%		\$3,724,839.00
Contractors, General Conditions, Profit, Bonds, and Overhead	12%		\$1,787,922.72
Subtotal			\$20,412,117.71
Architecture and Engineering Fees Allowance	20%		\$4,082,423.54
Owners Construction Contingency	5%		\$1,020,605.89
Total			\$25,515,147.13

Hite cost estimates

Number	Item	Unit	Unit Cost	Quantity	Extended cost	Notes and/or assumptions
Employee Housing						
Alternative A			Total		\$0.00	
No cost associated with Alternative A						
Alternative B			Total		\$1,244,688.00	
	Site Demolition - Clearing and grubbing	LS	\$22,800.00	1	\$22,800.00	Assume that medium grubbing is required for site preparation.
	Site Removal - Removal of existing NPS and concessioner housing units	LS	\$80,000.00	1	\$80,000.00	Assume that it costs \$5,000 to remove each of the 16 modular homes.
	Site Development - Housing	LS	\$1,038,080.00	1	\$1,038,080.00	Housing includes the replacement of 6 NPS modular NPS homes and 10 modular concessioner homes. Each modular house is 800 square feet at a price of \$81.10 per square foot.
	Site Rehabilitation - Landscaping	LS	\$103,808.00	1	\$103,808.00	Landscaping is 10% the cost of each housing unit. Includes earthwork seeding, and planting shrubs and small trees.
Alternative C			Total		\$1,244,688.00	
Same as Alternative B						
Visitor Overnight Accommodations						
Alternative A			Total		\$0.00	
No cost associated with Alternative A						
Alternative B			Total		\$1,472,880.00	
	Site Demolition - Clearing and grubbing	LS	\$20,520.00	1	\$20,520.00	Assume that medium grubbing is required for site preparation.
	Site Removal - Removal of existing family rental units	LS	\$25,000.00	1	\$25,000.00	Assume that it costs \$5,000 to remove each of the 5 modular homes. Each modular house is 800 square feet at a price of \$81.10 per square foot. Includes the replacement of the existing 5 family rental units and 15 additional family rental units.
	Site Development - Add family rental units	LS	\$1,297,600.00	1	\$1,297,600.00	15 additional family rental units.
	Site Rehabilitation - Landscaping	LS	\$129,760.00	1	\$129,760.00	Landscaping costs are 10% of the building cost.
Alternative C			Total		\$1,472,880.00	
Same as Alternative B						
Visitor Camping						
Alternative A			Total		\$0.00	
No cost associated with Alternative A						
Alternative B			Total		\$74,750.00	
	Site Development - Develop 25 Sites	LS	\$39,250.00	1	\$39,250.00	
	Site Development - Install restrooms	LS	\$30,200.00	1	\$30,200.00	Assume that four standard vault toilets would be installed.
	Site Development - Landscaping	LS	\$5,300.00	1	\$5,300.00	Landscaping costs are 10% of the building cost.
Alternative C			Total		\$74,750.00	
Same as Alternative B						
Shower and Laundry Facilities						
Alternative A			Total		\$0.00	
No cost associated with Alternative A						
Alternative B			Total		\$0.00	

APPENDIX B: CLASS C COSTS

Hite cost estimates

General store will include laundry and shower facilities.

Alternative C	Total	\$0.00
Same as Alternative B		

Land-based Stores

Alternative A	Total	\$0.00
No cost associated with Alternative A		

Alternative B	Total	\$435,654.00
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Site Development - Expand Village Center store	LS	\$150,000.00	1	\$150,000.00	Expansion will include a seasonal snack bar, laundry/shower facilities, and other family entertainment. Price is based upon an expansion of 1000 square feet with a price of \$150.00 per square foot.
Site Development - Install shade shelter	LS	\$55,140.00	1	\$55,140.00	Assume the shade shelter is 600 square feet and costs \$91.90 per square foot.
Site Development - Repave the fuel station area	LS	\$78,650.00	1	\$78,650.00	Assume the area to be repaved is 0.5 acres.
Site Development - Screen general store from fuel station	LS	\$100,000.00	1	\$100,000.00	Includes a 8ft high screen wall screening the general store from the fuel area that costs \$100.00 per linear foot.
Site Development - Upgrade RV waste disposal station	LS	\$31,350.00	1	\$31,350.00	Assume that an upgrade costs 50% of the cost of a new waste station.
Site Rehabilitation - Landscaping	LS	\$20,514.00	1	\$20,514.00	Landscaping costs are 10% of the building cost.

Alternative C	Total	\$435,654.00
Same as Alternative B		

Land-Based Food Service

Alternative A	Total	\$0.00
No cost associated with Alternative A		

Alternative B	Total	\$0.00
General store will include a seasonal snack bar		

Alternative C	Total	\$0.00
Same as Alternative B		

Day-Use Facilities

Alternative A	Total	\$0.00
No cost associated with Alternative A		

Alternative B	Total		\$118,573.00		
Site Demolition - Clearing and grubbing	LS	\$4,560.00	1	\$4,560.00	Assume that medium grubbing is required for site preparation.
Site Development - Shade shelters	LS	\$36,760.00	1	\$36,760.00	Build four shade shelters at 100 square feet for each one.
Site Development - Picnic tables	LS	\$6,488.00	1	\$6,488.00	Install 8 picnic tables
Site Development - Restroom facilities	LS	\$60,400.00	1	\$60,400.00	Install 4 regular vault toilets
Site Rehabilitation - Landscaping	LS	\$10,365.00	1	\$10,365.00	Landscaping costs are 10% of the building cost.

Alternative C	Total	\$118,573.00
Same as Alternative B		

Ranger Station/Visitor Contact Station and Emergency Facilities

Alternative A	Total	\$0.00
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Hite cost estimates

No cost associated with Alternative A					
Alternative B	Total				\$0.00
Same as Alternative A					
Alternative C	Total				\$0.00
Same as Alternative A					
Concessioner Boat Maintenance and Repair, and Property Maintenance Facilities					
Alternative A	Total				\$0.00
No cost associated with Alternative A					
Alternative B	Total				\$0.00
Same as Alternative A					
Alternative C	Total				\$0.00
Same as Alternative A					
National Park Service Maintenance Facilities					
Alternative A	Total				\$0.00
No cost associated with Alternative A					
Alternative B	Total				\$0.00
Same as Alternative A					
Alternative C	Total				\$0.00
Same as Alternative A					
Secured Storage					
Alternative A	Total				\$0.00
No cost associated with Alternative A					
Alternative B	Total				\$72,380.00
Site Demolition - Clearing and grubbing	LS	\$19,380.00	1	\$19,380.00	Assume that medium grubbing is required for site preparation. Assume it costs \$1000 per space for 53 additional spaces. This includes paving, lighting, and other utilities that are required.
Site Development - Add secured storage sites	LS	\$53,000.00	1	\$53,000.00	
Alternative C	Total				\$72,380.00
Same as Alternative B					
Utility Systems					
Alternative A	Total				\$0.00
No cost associated with Alternative A					
Alternative B	Total				\$1,108,188.00
Site Development - Expand energy system	LS	\$250,000.00	1	\$250,000.00	Assume it will cost \$250,000 to expand utility needs to the additional structures.
Site Development - Drill and Blast	LS	\$134,568.00	1	\$134,568.00	Assume an area 2,242 square feet by 15 feet deep required for 100,000-gallon underground potable water storage tank.
Site Development - Rubble Removal	LS	\$17,568.60	1	\$17,568.60	Assume 1 CY per ton
Site Development - Expand water storage capacity	LS	\$205,500.00	1	\$205,500.00	Assume a 100,000-gallon underground tank will be installed.

APPENDIX B: CLASS C COSTS

Hite cost estimates

Site Development - Utilize solar and fuel cell technology.	LS	\$500,000.00	1	\$500,000.00	Assume it will cost \$500,000 to include solar and fuel cell technology
Alternative C	Total			\$1,108,188.00	
Site Development - Expand energy system	LS	\$250,000.00	1	\$250,000.00	Assume it will cost \$250,000 to expand utility needs to the additional structures.
Site Development - Drill and Blast	LS	\$134,568.00	1	\$134,568.00	Assume an area 2,242 square feet by 15 feet deep required for 100,000-gallon underground potable water storage tank.
Site Development - Rubble Removal	LS	\$17,568.60	1	\$17,568.60	Assume 1 CY per ton
Site Development - Expand water storage capacity	LS	\$205,500.00	1	\$205,500.00	Assume a 100,000-gallon underground tank will be installed.
Site Development - Utilize solar and fuel cell technology.	LS	\$500,000.00	1	\$500,000.00	Assume it will cost \$500,000 to include solar and fuel cell technology
Roads and Parking					
Alternative A	Total			\$0.00	
No cost associated with Alternative A					
Alternative B	Total			\$266,300.00	
Site Demolition - Clearing and grubbing	LS	\$22,800.00	1	\$22,800.00	Assume that medium grubbing is required for site preparation.
Site Development - Gravel road to primitive campsites.	LS	\$243,500.00	1	\$243,500.00	Assume that it will require 0.5 miles of new road to access the primitive campsites along the shoreline.
Alternative C	Total			\$266,300.00	
Same as Alternative B					
Fee Collection					
Alternative A	Total			\$0.00	
No cost associated with Alternative A					
Alternative B	Total			\$0.00	
Same as Alternative A					
Alternative C	Total			\$0.00	
Same as Alternative A					
School					
Alternative A	Total			\$0.00	
No cost associated with Alternative A					
Alternative B	Total			\$0.00	
Same as Alternative A					
Alternative C	Total			\$0.00	
Same as Alternative A					
Airstrip					
Alternative A	Total			\$0.00	
No cost associated with Alternative A					
Alternative B	Total			\$0.00	
Same as Alternative A					
Alternative C	Total			\$0.00	

Hite cost estimates

Same as Alternative A

Boat Wash-Down Area

Alternative A	Total	\$0.00	
No cost associated with Alternative A			
Alternative B	Total	\$90,000.00	
Site Development - Construction of a boat wash-down area	LS	\$90,000.00	1
			Assume it costs \$90,000 to build a boat wash-down area with water hook-ups and other necessary utilities.
Alternative C	Total	\$90,000.00	
Same as Alternative B			

Marina Facilities

Alternative A	Total	\$0.00	
No cost associated with Alternative A			
Alternative B	Total	\$0.00	
Same as Alternative A			
Alternative C	Total	\$0.00	
Same as Alternative A			

Water-Based Store

Alternative A	Total	\$0.00	
No cost associated with Alternative A			
Alternative B	Total	\$0.00	
Same as Alternative A			
Alternative C	Total	\$0.00	
Same as Alternative A			

Water-Based Food Service

Alternative A	Total	\$0.00	
No cost associated with Alternative A			
Alternative B	Total	\$0.00	
Same as Alternative A			
Alternative C	Total	\$0.00	
Same as Alternative A			

Launch Ramps

Alternative A	Total	\$0.00	
No cost associated with Alternative A			
Alternative B	Total	\$0.00	
Same as Alternative A			
Alternative C	Total	\$0.00	
Same as Alternative A			

APPENDIX B: CLASS C COSTS

Hile cost estimates

Launch Ramp Support						
Alternative A		Total		\$0.00		
No cost associated with Alternative A						
Alternative B		Total		\$0.00		
Same as Alternative A						
Alternative C		Total		\$62,700.00		
Site Development - Land-based boat pump-out facility		LS	\$62,700.00	1	\$62,700.00	Assume cost of land-based boat pump-out similar to a sanitary dump station.
Ferry Service						
Alternative A		Total		\$0.00		
No cost associated with Alternative A						
Alternative B		Total		\$0.00		
Same as Alternative A						
Alternative C		Total		\$0.00		
Same as Alternative A						
River Runner Takeout						
Alternative A		Total		\$0.00		
No cost associated with Alternative A						
Alternative B		Total		\$0.00		
Same as Alternative A						
Alternative C		Total		\$0.00		
Same as Alternative A						
Grand Total						
Alternative A		Total		\$0.00		
Alternative B		Total		\$4,883,413.00		
Concept Plan Contingency		25%	\$1,220,853.25			
Contractors, General Conditions, Profit, Bonds, and Overhead		12%	\$586,009.56 Allowance for Planning and Design Fees			
Subtotal			\$6,690,275.81			
Architecture and Engineering Fees Allowance		20%	\$1,338,055.16			
Owners Construction Contingency		5%	\$334,513.79			
Total			\$8,362,844.76			
Alternative C		Total		\$4,946,113.00		
Concept Plan Contingency		25%	\$1,236,528.25			
Contractors, General Conditions, Profit, Bonds, and Overhead		12%	\$593,533.56 Allowance for Planning and Design Fees			
Subtotal			\$6,776,174.81			
Architecture and Engineering Fees Allowance		20%	\$1,355,234.96			
Owners Construction Contingency		5%	\$338,808.74			
Total			\$8,470,218.51			

Appendix C – Bald Eagle Sightings

Appendix C

**Summary of Bald Eagle Winter Observations at Lake Powell
for Indicated Time Spans of Recent Years (1991–2002)**

Location of Bald Eagle Sightings – (Area No.)	11–91 03–92	12–92 02–93	11–93 03–94	11–94 02–95	11–95 02–96	01–97 02–97	12–97 02–98	12–98 02–99	12–99 01–00	12–01 02–02
Alcove Canyon – 5	1	1	—	—	—	—	—	—	—	—
Annies Canyon – 4	—	—	—	—	—	1	—	—	—	—
Antelope – 2	—	—	—	—	—	—	2	4	1	1
Antelope Island – 2	—	—	1	1	—	2	6	2	4	3
Antelope Point – 2	—	—	—	—	2	—	—	—	—	—
Blue Notch – 9	—	—	—	—	—	—	—	—	—	1
Bullfrog – 8	1	—	2	1	—	1	—	—	—	—
Bullfrog Airport – 8	—	—	1	—	—	—	—	—	—	—
Bullfrog Bay – 8	5	3	—	10	1	2	2	5	3	4
Bullfrog Creek – 8	—	—	—	—	—	—	—	—	—	2
Bullfrog (East) – 8	1	—	—	—	—	—	—	—	—	—
Bullfrog (South) – 8	—	—	—	—	—	—	4	—	—	—
Castle Butte – 9	—	—	—	—	1	—	—	—	—	—
Castle Rock – 2	—	—	2	—	1	1	1	1	—	1
Castle Rock (West of) – 2	—	—	—	—	1	—	—	—	—	—
Cataract Canyon – 10	1	1	1	4	1	1	—	4	1	4
Cataract Canyon (Below) – 10	—	—	—	—	—	—	—	1	—	—
Cedar Canyon – 9	1	—	—	—	—	—	—	—	—	—
CHA Canyon – 5	—	1	1	—	—	—	—	—	—	—
Clay Hills – 6	1	2	—	—	1	—	2	—	—	1
Clearwater Canyon – 10	1	—	—	—	—	—	—	—	—	—
Colorado River – 1	—	—	—	—	—	1	—	—	—	—
Cookie Jar – 3	—	1	—	1	—	—	2	—	—	—
Copper Canyon – 5	—	—	—	2	1	—	—	—	1	1
Cottonwood Bay – 4	—	1	—	—	—	—	—	—	—	—
Cow Canyon – 7	—	—	—	—	—	1	—	—	—	—
Crosby Canyon – 2	—	—	—	—	—	—	—	2	—	—
Dangling Rope – 3	1	—	—	—	—	—	1	—	—	1
Dirty Devil – 9	—	—	—	—	—	—	—	1	2	—
Dirty Devil (Mouth) – 9	—	—	—	—	—	—	—	—	1	—
Dominiques Butte – 3	4	—	—	—	—	—	—	—	—	—
Face Canyon – 3	—	—	—	—	—	—	2	4	2	—
Farley Canyon – 9	—	—	—	—	—	—	—	—	—	1
Finger Rock Canyon – 3	—	—	—	—	—	—	—	1	—	—
Forgotten Canyon – 9	—	—	—	—	—	—	—	—	1	—
Fourmile Canyon – 9	—	—	1	—	—	—	—	—	—	—
Good Hope Bay – 9	6	—	2	2	—	—	1	1	—	1

APPENDIX C: BALD EAGLE SIGHTINGS

Location of Bald Eagle Sightings – (Area No.)	11-91 03-92	12-92 02-93	11-93 03-94	11-94 02-95	11-95 02-96	01-97 02-97	12-97 02-98	12-98 02-99	12-99 01-00	12-01 02-02
Good Hope Bay (South) – 9	1	1	—	—	1	3	—	—	—	—
Great Bend – 6	—	—	—	—	—	—	1	—	—	—
Gregory Butte – 3	1	—	—	—	—	—	—	—	—	3
Gregory Point – 3	—	—	1	—	—	—	—	—	—	—
Gunsight – 3	—	1	—	—	—	1	1	3	1	2
Gunsight Butte – 3	—	3	—	1	—	—	—	—	—	—
Gypsum Canyon – 10	2	—	—	—	—	—	—	—	—	—
Halls Bay – 8	—	—	1	—	—	—	—	—	—	—
Halls Creek – 8	—	7	2	3	2	—	3	—	2	4
Halls Creek Bay – 8	—	—	1	—	—	1	2	5	3	9
Halls Crossing – 8	2	—	—	2	3	2	3	2	—	4
Halls Crossing Bay – 8	—	—	—	—	—	—	—	1	—	—
Halls Crossing (West Side) – 8	—	—	—	—	—	1	—	—	—	—
Hite – 9	2	—	—	—	—	2	5	1	1	2
Hite Bay – 9	1	—	1	3	1	—	—	—	—	—
Iceberg Canyon – 4	—	1	—	—	—	—	—	—	—	—
Jakes Arch – 7	—	—	—	—	1	—	—	—	—	—
Kane Point – 8	—	—	—	—	—	—	—	—	—	—
Lone Rock – 2	—	—	1	—	1	1	1	—	—	—
Long Canyon (Entrance) – 4	—	1	—	—	—	—	—	—	—	—
Marina (South of) – 9	—	—	—	—	—	1	—	—	—	—
Mikes Canyon – 5	—	—	—	—	—	—	—	1	—	—
Mile 7 Below Dam – 1	—	—	1	—	—	—	—	—	—	—
Mille Grag Bend – 10	1	—	—	—	—	—	—	—	—	—
Monitor Butte – 6	2	—	1	—	—	—	—	—	—	—
Narrows Canyon – 10	—	—	—	—	2	1	—	2	3	—
Navajo Canyon – 2	—	—	—	—	1	—	—	1	—	2
Neskahi Wash – 5	—	—	1	—	—	—	—	—	—	—
Nokai Canyon – 5	1	—	—	—	—	—	—	—	—	—
Nokai Canyon (Across from) – 5	—	—	1	—	—	—	—	—	—	—
No Man's Mesa – 5	—	1	—	—	—	—	—	—	—	—
North Warm Creek – 2	—	—	—	—	1	—	—	—	—	—
Oak Canyon – 3	—	—	—	—	—	—	—	1	—	—
Padre Bay – 3	—	1	3	4	1	—	—	—	—	2
Page Airport – 2	—	—	—	—	—	—	—	—	1	—
Piute Farms – 5	1	1	2	—	—	1	—	—	—	—
Piute Wash – 5	—	—	—	—	—	—	—	1	—	—
Red Canyon – 9	—	—	—	—	—	—	1	3	1	—
Rincon – 4	1	—	—	—	—	—	—	—	—	—
Rock Creek – 3	—	3	—	1	—	—	—	—	—	—
Romana Mesa – 3	—	—	—	2	—	—	—	—	—	1
San Juan – 5	—	—	1	—	—	1	5	3	2	3
San Juan Arm – 5	—	—	—	1	—	—	—	—	—	—

Location of Bald Eagle Sightings – (Area No.)	11-91 03-92	12-92 02-93	11-93 03-94	11-94 02-95	11-95 02-96	01-97 02-97	12-97 02-98	12-98 02-99	12-99 01-00	12-01 02-02
San Juan Canyon – 5	—	1	—	—	—	—	—	—	—	—
San Juan (Great Bend) – 5	—	—	—	—	—	—	—	—	—	1
San Juan (Mouth) – 5	—	1	1	—	—	—	—	—	—	—
San Juan River – 6	—	—	1	—	—	—	1	—	2	—
Seven Mile Creek – 9	—	—	—	—	—	—	1	—	—	—
Sheep Canyon – 10	—	—	1	—	—	—	—	—	—	—
Slick Rock (Slickrock) Canyon – 4	—	—	1	1	—	—	—	—	—	—
Stanton Creek – 8	—	1	—	5	—	—	1	—	—	—
Stevens Arch – 7	—	—	1	—	—	—	—	—	—	—
Tapestry (South) – 9	1	—	—	—	—	—	—	—	—	—
Tapestry Wall – 9	—	1	1	—	—	—	—	1	—	—
Tapestry (West) – 9	—	1	—	—	—	—	—	—	—	—
The Chains – 2	—	—	—	—	1	—	—	—	—	—
The Horn – 9	1	—	—	—	—	1	—	—	2	2
The Narrows – 10	1	—	—	—	—	—	—	—	—	—
Ticaboo Canyon – 9	—	—	—	—	—	—	—	1	—	—
Ticaboo (South of) – 8	—	—	—	1	—	—	—	—	—	—
Trachyte Creek – 9	—	—	—	—	—	—	1	—	—	—
Two Mile Canyon – 9	—	2	—	—	—	—	—	—	—	—
Wahweap Bay – 2	—	1	1	—	—	1	1	5	2	6
Wahweap Creek – 2	—	—	—	—	—	—	—	—	—	2
Warm Creek – 2	1	—	4	4	—	3	—	1	3	5
Warm Creek Bay – 2	—	—	—	—	—	1	—	—	—	—
Waterhole Canyon – 1	—	—	—	—	—	1	—	—	—	—
Waterhole Flats – 10	1	—	1	—	—	—	—	—	—	—
West Canyon – 3	—	—	—	—	—	1	—	1	—	1
West Canyon (East) – 3	—	—	1	—	—	—	—	—	—	—
West Canyon (Mouth) – 3	—	—	—	—	1	—	—	—	—	—
White Canyon – 9	—	—	—	—	—	—	—	2	—	—
Zahn Bay – 5	—	—	1	4	—	—	1	—	—	—
Total Observations	43	39	42	53	25	33	51	61	39	70

Note: Only 1 month of data (23 bald eagle observations) were recorded during December 2000 (Spence 2002), so that winter season was not included in the table.

Source: Spence 2002

Appendix D – Consultation

Glen Canyon National Recreation Area
Project Scoping meetings with affiliated Tribes

Uplake Development Concept Plan/Environmental Assessment

The **White Mesa Ute Band** the Ute Mountain Ute Tribe had their meeting in Blanding, Utah on February 10, 2004. Approximately 10 tribal members attended the meeting, which included 5 board members.

Comments and Questions:

- The White Mesa Ute Band Board will disperse this information to their people and if they have any major concerns, the Board Chairperson Mary Jane Yazzie will contact our office.
- Inquires were made as to the Antelope Point Marina's low water affects.

Hopi Tribe: The Hopi Tribal Cultural Preservation meeting was on February 18, 2004 in Kykotsmobi, Arizona. The Cultural Preservation staff has requested that an on site visit to Farley, White, and Blue Notch Canyons to see if there are any archeological sites or rock arts.

They asked to be kept informed of the planning document through its completion.

The **Kaibab Paiute Tribe:** The tribal council had their meeting on February 19, 2004 and approximately 20 people were in attendance including the council members.

Comments:

- We really appreciate your efforts in communicating with our tribe.
- We still have not received word from the Bureau of Reclamations on what is being planned as far as the pipeline (water from Lake Powell) is concerned.
- Antelope Point – Is the development still in process or have they stopped the development due to low water?
- What is the current lake elevation?
- Unfortunately, some of our staff is not present that would have some input your planning document, but we will past this information on to them. They will contact you if they have any major concerns.

Koosharem Band of the Paiute Indian Tribe of Utah: The tribal meeting consisted of five council members and approximately 15 people in attendance on February 22, 2004.

Comments:

- The council members inquired about the locations of Farley, White and Blue Notch Canyons on the Glen Canyon NRA map.
- They wanted know if access roads are already in place.
- The tribe would like to be kept up to date on the low water affects and any new developments such as the relocation of Hite Marina if that should happen.

crossing. We do not believe that's right. If they do than include Antelope Point Marina.

- We wonder if the Park would allow us to go back to farming in the side canyons if the water keeps getting low.
- The Hite Marina facilities should not be moved to other areas, if water is low, than visitors should be decreasing too.
- It is good to get an update of the marina operations throughout the lake and to get an understanding of how low water effects these operations.
- We appreciate the Park Service coming to tell us about the low water effects and seeing these pictures on how it really is out there. Sometimes when people tell about areas, you really don't understand it until you see. Thank you.

San Juan Southern Paiute: Contact with this tribe has been difficult. Telephone calls have been made numerous times and responses have been very limited by receiving tentative meeting dates with no real commitments.

Shivwits Band of Southern Paiute: The tribe has one meeting a month and schedule has been a conflict with other meetings. Finally, we have an opening to attend the June 3, 2004 tribal meeting. Their input and comments will be updated after their meeting.

Pauline Wilson

Kaibab Band of Paiute Indians



August 31, 2004

Pauline Wilson
American Indian Liaison
Glen Canyon National Recreation Area
PO Box 1507
Page, AZ 86040-1507

Dear Ms. Wilson;

Thank you for your request for tribal involvement in the Glen Canyon National Recreation Area Uplake Development Concept Plan/ Environmental Assessment. We appreciate your recognition of our tribe's sovereign status.

As you probably know, the Kaibab Paiutes consider issues relating to Glen and Grand canyons to have special significance. The existing extensive development associated primarily with the NRA does not lend itself to resource protection; this is troubling to the tribe. Actions that seek to increase development or visitation are counter to our view of the desired treatment for this area.

Based on the draft range of alternatives for all of the sites, the Kaibab Band of Paiute Indians supports Alternative A (the No Action Alternative) in all cases. We hope that you respect our wishes.

Please be advised that parties wishing to appear before the Kaibab Paiute Tribal Council (held every third Thursday in a given month) need to submit their request to appear on the agenda by the second Wednesday.

Once more, thank you for requesting our involvement in this matter.

Regards,

A handwritten signature in dark ink, appearing to read 'LeAnn Skrzyński', is written over a circular stamp or seal.

LeAnn Skrzyński
Environmental Program Director

	Tribal Affairs	
HC 65 Box 2		Phone (928) 643-7245
Pipe Spring, Arizona 86022		Fax (928) 643-7260

**Trip Report
April 11, 2006
Pauline Wilson, American Indian Liaison**

AREA VISITED:

The Paiute Indian Tribes of Utah, Kanosh Paiute Band on the Kanosh Paiute Indian Reservation. of Kanosh, Utah near Cedar City..

PURPOSE:

Provide updated information to the Kanosh Paiute Tribe of Glen Canyon National Recreation Area (NRA) planning projects.

PRINCIPAL PARTICIPANTS:

The Kanosh Paiute Band Council of Kanosh, Utah; community members approximately 20 people and me.

ISSUES DISCUSSED:

I presented to the Kanosh Paiute Band Council:

- Uplake Development Concept Plan (DCP)
- Hazard Tree Removal in developed areas of the park
- Lees Ferry Improvement.
- Colorado River Restoration Project.
- Viking Oil Project that will be forthcoming in the future.

RECOMMENDATIONS/DECISIONS:

Questions that were posed were:

1. The lake elevation is at what level? Answer: About 3580.
2. How is Hite Marina, is it still operating as a marina? Answer: No, the Hite bay now only has a river.
3. A couple of our Paiute members had traveled to Bullfrog Marina in Utah to give input on Burr Trail. We always want to be kept informed of the areas around Halls Crossing and we want thank you for not forgetting us out here, we know it is a long ways out there.

OBSERVATIONS:

The council members gave appreciation for my being at their meeting, considering the long drive to their reservation. They would like to continue to be informed all new developments in the Uplake Marinas. Thus far they have a lot of respect for the National Park Service for making the effort to involve the Kanosh Paiute Band.

April 24, 2006

Submitted by Pauline Wilson, American Indian Liaison, Glen Canyon NRA

Statement regarding American Indian Tribes/Nations
with various associations or affiliation to the park

In 1995, Glen Canyon National Recreation Area (NRA) and Rainbow Bridge National Monument (NM) contacted 36 American Indian tribes potentially affiliated with Glen Canyon NRA and/or Rainbow Bridge NM. These contacts were made to determine those tribes who wished to consult with Glen Canyon NRA and Rainbow Bridge NM on matters relating to the implementation of the Native American Graves Protection and Repatriation Act (NAGPRA) of 1990. At that time, 12 tribes responded that their communities were closely affiliated with Glen Canyon NRA and/or Rainbow Bridge NM and that they would like to be consulted. Since the original list of 36 tribes was constructed to reflect all American Indian tribes having the potential of historic and cultural affiliation, the resulting shorter list has since been routinely used to consult on a wider range of issues.

The present effort to prepare a draft environmental assessment for the Uplake Development Concept Plan (DCP) is one of these non-NAGPRA related issues. Since Glen Canyon NRA has routinely used the list of 12 tribes to consult on other non-NAGPRA related work such as planning, management, and visitor education activities, it would be consistent to use this shorter list for consultation on the Uplake DCP.

12 Tribes/Nations:

Hopi Tribal Council, Arizona
Havasupai Tribal Council, Arizona
Hualapai Indian Tribal Council, Arizona
Navajo Nation, Arizona, New Mexico & Utah
Pueblo of Acoma
Pueblo of Nambe
Pueblo of San Juan
Pueblo of Zuni
Kaibab Paiute Tribal Council (This Tribal Band is included/Paiute Indian Tribe of Utah)
Paiute Indian Tribe of Utah Council (Kanosh, Koosharem, Shivwits Bands)
San Juan Southern Paiute Council, Arizona
Ute Mountain Ute Tribal Council (White Mesa Ute Band), Colorado & Utah

**Trip Report
May 17, 2006
Pauline Wilson, American Indian Liaison**

AREA VISITED:

Pueblo of San Juan in San Juan, New Mexico

PURPOSE:

Provide updated information to the Pueblo of San Juan about the Glen Canyon National Recreation Area (NRA) planning projects.

PRINCIPAL PARTICIPANTS:

ISSUES DISCUSSED:

I presented to the Pueblo of San Juan the following documents/projects.

- Uplake Development Concept Plan (DCP)
- Hazard Tree Removal in developed areas of the park.
- Lees Ferry Improvement.
- Colorado River Restoration Project.
- Viking Oil Project that will be forthcoming in the future.

RECOMMENDATIONS/DECISIONS:

Comments:

It was stated

OBSERVATIONS:



United States Department of the Interior

FISH AND WILDLIFE SERVICE

UTAH FIELD OFFICE
2369 WEST ORTON CIRCLE, SUITE 50
WEST VALLEY CITY, UTAH 84119

In Reply Refer To

FWS/R6
ES/UT
04-0813

June 14, 2004

Kitty L. Roberts
National Park Service
Glen Canyon National Recreation Area
P.O. Box 1507
Page, Arizona 86040

GLEN CANYON NATIONAL RECREATION AREA		
RECEIVED: JUN 22 2004		
RTG	OFFICE	INITIALS
1	SUPERINTENDENT	[Signature]
	ASST SUPERINTENDENT	
	MANAGEMENT ASST	
	SAFETY OFFICER	
	CH FACILITIES MGMT	
	CH ADMINISTRATIVE SVC	
	BUDGET	
	PERSONNEL	
	CH RANGER	
	FEE MANAGER	
	CH INTERPRETATION	
	CH CONCESSIONS MGMT	
	CH RESOURCE MANAGEMENT	
	LIBRARY	

cc Liza Ermeling

RE: Request for Threatened and Endangered Species list for Bullfrog, Halls Crossing, and Hite Marina Areas Within Glen Canyon NRA

Dear Ms. Roberts:

Thank you for informing us that the information we provided in response to your April 12, 2004 request for a species list, was for an inaccurate location. Included is a species list for Garfield, Kane and San Juan Counties. We apologise for the inconvenience.

Based on information provided in your letter of April 12, below is a list of endangered (E), threatened (T), and candidate (C) species that may occur in the area of influence of your proposed action.

Common Name	Scientific Name	Status
GARFIELD		
Aquarius Paintbrush	<i>Castilleja aquariensis</i>	C
Autumn Buttercup	<i>Ranunculus aestivalis</i>	E
Jones Cycladenia	<i>Cycladenia humilis</i> var. <i>jonesii</i>	T
Maguire Daisy	<i>Erigeron maguirei</i>	T
Ute Ladies'-tresses	<i>Spiranthes diluvialis</i>	T
Bonytail ^{4,10}	<i>Gila elegans</i>	E
Colorado Pikeminnow ^{4,10}	<i>Ptychocheilus lucius</i>	E
Humpback Chub ^{4,10}	<i>Gila cypha</i>	E
Razorback Sucker ^{4,10}	<i>Xyrauchen texanus</i>	E
Bald Eagle ³	<i>Haliaeetus leucocephalus</i>	T
California Condor ⁷	<i>Gymnogyps californianus</i>	E
Mexican Spotted Owl ^{1,4}	<i>Strix occidentalis lucida</i>	T
Southwestern Willow Flycatcher	<i>Empidonax traillii extimus</i>	E

	Western Yellow-billed Cuckoo	<i>Coccyzus americanus occidentalis</i>	C
	Utah Prairie Dog	<i>Cynomys parvidens</i>	T
KANE			
	Jones Cycladenia	<i>Cycladenia humilis</i> var. <i>jonesii</i>	T
	Kodachrome Bladderpod	<i>Lesquerella tumulosa</i>	E
	Navajo Sedge	<i>Carex specuicola</i>	T
	Siler Pincushion Cactus	<i>Pediocactus sileri</i>	T
	Welsh's Milkweed ⁴	<i>Asclepias welshii</i>	T
	Kanab Ambersnail ⁵	<i>Oxyloma haydeni kanabensis</i>	E
	Coral Pink Sand Dunes Tiger Beetle	<i>Cincindela limbata albissima</i>	C
	Colorado Pikeminnow ^{4,10}	<i>Ptychocheilus lucius</i>	E
	Razorback Sucker ^{4,10}	<i>Xyrauchen texanus</i>	E
	Bald Eagle ³	<i>Haliaeetus leucocephalus</i>	T
	California Condor ⁷	<i>Gymnogyps californianus</i>	E
	Mexican Spotted Owl ^{1,4}	<i>Strix occidentalis lucida</i>	T
	Southwestern Willow Flycatcher	<i>Empidonax traillii extimus</i>	E
	Western Yellow-billed Cuckoo	<i>Coccyzus americanus occidentalis</i>	C
	Utah Prairie Dog	<i>Cynomys parvidens</i>	T
SAN JUAN			
	Navajo Sedge	<i>Carex specuicola</i>	T
	Bonytail ^{4,10}	<i>Gila elegans</i>	E
	Colorado Pikeminnow ^{4,10}	<i>Ptychocheilus lucius</i>	E
	Humpback Chub ^{4,10}	<i>Gila cypha</i>	E
	Razorback Sucker ^{4,10}	<i>Xyrauchen texanus</i>	E
	Bald Eagle ³	<i>Haliaeetus leucocephalus</i>	T
	California Condor ⁷	<i>Gymnogyps californianus</i>	E
	Gunnison Sage Grouse	<i>Centrocercus minimus</i>	C
	Mexican Spotted Owl ^{1,4}	<i>Strix occidentalis lucida</i>	T
	Southwestern Willow Flycatcher	<i>Empidonax traillii extimus</i>	E
	Western Yellow-billed Cuckoo	<i>Coccyzus americanus occidentalis</i>	C
	Black-footed Ferret ⁶	<i>Mustela nigripes</i>	E

Nests in this county of Utah.

² Migrates through Utah, no resident populations.

³ Wintering populations (only five known nesting pairs in Utah).

⁴ Critical habitat designated in this county.

⁵ Critical habitat proposed in this county.

⁶ Historical range.

⁷ Experimental nonessential population.

⁸ Introduced, refugia population.

⁹ Candidate species have no legal protection under the Endangered Species Act. However, these species are under active consideration by the Service for addition to the Federal List of Endangered and Threatened Species and may be proposed or listed during the development of the proposed project.

¹⁰ Water depletions from any portion of the occupied drainage basin are considered to adversely affect or adversely modify the critical habitat of the endangered fish species, and must be evaluated with regard to the criteria described in the pertinent fish recovery programs.



United States Department of the Interior

NATIONAL PARK SERVICE
Glen Canyon National Recreation Area
P.O. Box 1507
Page, Arizona 86040
MAR 24 2004



IN REPLY REFER TO:
H4217 GLCA-1445-C

Wilson Martin, Director
Utah State Historical Society
300 Rio Grande
Salt Lake City, Utah 84101-1182

Reference: Glen Canyon National Recreation Area (NRA), Environmental Assessment (EA) to
Evaluate Potential Impacts of Uplake Development Concept Plan (DCP)

Subject: Section 106 Compliance

Dear Mr. Martin:

Glen Canyon NRA has initiated planning on the draft Uplake DCP to study the facilities and visitor services provided at Hite, Bullfrog, and Halls Crossing marina areas. Draft alternatives for future development will be identified and an EA will be prepared to evaluate potential impacts to the natural and human environment. Existing DCPs for these areas were approved almost 20 years ago and an update is needed to address changing lake levels and the age of various lake facilities. When completed, the final DCP will guide development in the uplake areas for the next 10+ years.

This letter is to inform your office that we will be developing a combined environmental impact document that addresses both compliance with Section 106 of the National Historic Preservation Act, as amended, and the National Environmental Policy (as described in 36 CFR 800.8[a-c]). Upon its completion, the draft EA will be distributed to your office for review, comment, and concurrence with the National Park Service's determination of effects on cultural resources. Additional supporting information resulting from the analysis process will be included with the draft EA as appropriate.

We look forward to receiving your input on the planning process. We believe that it will ensure that cultural resources are adequately considered while meeting our planning objectives. As required by 36 CFR 800, the Advisory Council on Historic Preservation has also been notified as to our intent to include Section 106 compliance within the environmental assessment document.

If you have any questions or need additional information, please contact Archeologist Chris Kincaid of my staff at 928-608-6277.

Sincerely,

KITTY L. ROBERTS

Kitty L. Roberts
Superintendent

bcc:
Chief, Resource Mgmt, GLCA
Archeologist, GLCA
Project Mgr, GLCA

C.Kincaid:jmh:3/22/04:p:Kincaid/Uplake DCP UT SHPO EA 106 Notification ltr.doc



United States Department of the Interior

NATIONAL PARK SERVICE
Glen Canyon National Recreation Area
P.O. Box 1507
Page, Arizona 86040



IN REPLY REFER TO:

D18 GLCA-1448
UL DCP

JUN 23 2006



Mr. Henry Maddox, Field Supervisor
US Fish and Wildlife Service
Utah Field Office
2369 West Orton Circle, Suite 50
West Valley City, Utah 84119

Dear Mr. Maddox:

The National Park Service, Glen Canyon National Recreation Area (NRA) is in the process of completing an Environmental Assessment for the future development of the existing developed marina areas located in Garfield, Kane, and San Juan Counties in Southern Utah. This document is titled "Draft Uplake Development Concept Plan (DCP)/Environmental Assessment (EA)." The marina areas included in this DCP, highlighted on a location map (enclosure 1), include Hite, Bullfrog, and Halls Crossing. An initial scoping letter and request for a species list for this project was sent to your office on April 24, 2004.

This letter is being forwarded to you in order to fulfill our obligation as required by Section 7 of the Endangered Species Act.

The Environmental Assessment for the DCP includes Alternative A (No Action Alternative), Alternative B – Moderate Build out (preferred Alternative) and Alternative C – Extreme Build out. A list of proposed projects for each location is included as enclosure 2. A map showing the No Action Alternative for each development area is included as enclosures 3, 4, and 5. A map showing Alternative B for each developed area is included as enclosures 6, 7, and 8. A map showing Alternative C for each developed area is included on enclosures 9 and 10. The majority of the proposed project for Alternatives B and C will expand existing facilities within the disturbed footprint of each developed area. Projects that will disturb new areas include the placement of new visitor use boat ramps and State of Utah Ferry ramps at Bullfrog and Halls Crossing (see enclosure 11) should the water level of Lake Powell recede below 3550 feet in elevation. Additionally, a new shoreline camping area is proposed for the Hite developed area.

As shown in the enclosed species status table (enclosure 12), NPS biologists have determined that the range of proposed projects will have no affect on the following listed species: Bonytail, California Condor, Colorado Pikeminnow, Humpback Chub, Jones Cycladenia, Mexican Spotted Owl, Razorback Sucker, and Yellow-billed Cuckoo. The species status table also provides

explanation of why the majority of species listed in Garfield, Kane, and San Juan Counties including those that occur or have habitat within the boundary of Glen Canyon NRA will not be affected.

We have also determined that our proposed range of projects could create a “may affect, not likely to adversely affect” situation for the Southwestern Willow Flycatcher and the Bald Eagle.

In the paragraphs below we provide information used as the basis for determining the DCP related impacts to the Southwestern Willow Flycatcher and Bald Eagle.

Southwestern Willow Flycatcher (*Empidonax traillii extimus*)

Potentially suitable habitat for the Southwestern Willow Flycatcher occurs along the eastern side of the boat ramp at the Hite Marina Area as seen in the enclosed photo log (enclosure 13). This area may be described as a large, gently sloping plane that extends approximately 2000 feet to the waters edge. A large area of tamarisk/willow habitat is growing on this plane, with the largest trees being found along the upland transition zone. This habitat proceeds unbroken from 3670 feet in elevation to the shoreline of the Colorado River at 3550 feet in elevation. The habitat can be characterized as dense with a small number of fragmented openings. These openings generally contain a thick cover of herbaceous vegetation. While composition information has not been collected for the project area, anecdotally, the site appears to be predominately tamarisk/willow, with the numbers of tamarisk far exceeding the number of willows.

This area has been proposed as the site of low water shoreline camping. The proposed project would include installation of a graded, gravel surfaced road and portable restrooms. Camping sites would be by individual visitor choice and the camping area would be closed during the breeding season of the Southwestern Willow Flycatcher.

Both the habitat area and the camping area are subject to periodic inundation as the level of Lake Powell rises. Much of this shoreline growth is the result of drought conditions during the last 5-8 years, which has resulted in an accumulation of sediment and downstream movement of the boundary between the lake and river. The accumulation of sediment has caused the main channel to move against the western bank, leaving large areas of backwater and sediment islands along the eastern bank. This has provided the ideal substructure for the development of dense stands of tamarisk/willow habitat. As the water rises and falls, dependent on water releases from Glen Canyon Dam, the river edge area is periodically inundated, generally during the summer months when the migratory bird would be nesting and raising young. Much of this habitat area was underwater as late as 2000 and would again be underwater if the drought ended and the necessary amount of run-off entered the lake.

Presence and Absence surveys have not been conducted for this species in this area. Determination of affect was based on the habitat description for the Southwestern Willow Flycatcher as found in its recovery plan. Our observations reveal clear evidence of dense riparian thickets of large patch size that are near quiet, slow-moving backwater that is subject to periodic inundation, scouring floods and sediment deposition.

Yearly surveys were conducted from 1992 to 2000 for the Southwestern Willow Flycatcher below Glen Canyon Dam in Glen Canyon NRA. In May 1993 and 1994, several individuals were detected but did not remain at the locations they were observed and were probably migrants. Additionally, these sightings were in early to late May and identification was not positive and therefore, could have possibly been Northern Willow Flycatchers, which migrate through the area in late spring, before the Southwestern Willow Flycatchers arrive. The nearest known breeding site is on the Colorado River about 50 miles below Glen Canyon Dam and over 100 miles southwest of the Hite developed area. Surveys have not been conducted at Hite.

There is no suitable habitat at or adjacent to the Bullfrog and Halls Crossing Developed areas (see enclosure 14 and 15).

Determination - May Affect, Not Likely To Adversely Affect.

Mitigation Measures:

In order to lessen the possible minor affects to Southwestern Willow Flycatcher habitat and any individual birds that may be using this area for roosting, foraging or nesting, the following mitigation measures have been incorporated into the EA: construction of the access road, restrooms and any other incidental actions needed to develop this camping area will take place outside the Southwestern Willow Flycatcher breeding season. Additionally, use of the camping area will be restricted to the non-breeding season. These restrictions will be lifted should the water level increase and drown the habitat area. As the water rises and falls, the shoreline camping area will be adjusted accordingly.

Bald Eagle (*Haliaeetus leucocephalus*)

Bald eagle (*Haliaeetus leucocephalus*) can be found in Glen Canyon NRA around the Lake Powell shoreline during the wintertime. During this time, they have generally been found roosting on sandstone outcrops and cottonwood snags. Bald eagles have not been found elsewhere in the park. Aerial surveys for this species are completed during the annual Audubon Christmas Bird Count and in the last 4 years, 95 percent have been sighted on cliffs and rounded sandstone hilltops. These birds do not breed in Glen Canyon NRA and our bird specialist, Dr. John Spence believes that these birds are from nearby Arizona and Colorado breeding populations. The earliest seasonal record of a bald eagle in Glen Canyon NRA is September 7th and the latest record is March 19th. Between 1990 and 2002, 699 bald eagles were recorded during 60 aerial surveys with high year-to-year variability. Glen Canyon NRA staff continues to monitor bald eagles annually

Both adult and immature bald eagles have been seen foraging in Bullfrog Bay and have also been seen roosting on sandstone hilltops north and south of the Bullfrog developed area and north and south of the Hite developed area. The area south of the Bullfrog developed area and north and south of the Halls Crossing developed area have been proposed as expansion areas for visitor use boat ramps and the State of Utah Ferry ramp, should the level of Lake Powell drop below 3550 feet in elevation. At this elevation, the current ramps will become unusable; and due to topography, extension of these ramps will not be possible and new ramps will have to be built.

Determination: May affect, not likely to adversely affect.

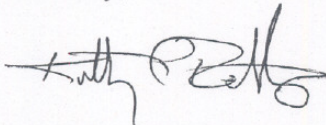
Mitigation Measures: None

While bald eagles are seen in the park during winter months, adverse impacts under either of the alternatives would be negligible for this species. Most roost sites found during yearly surveys were located well outside the developed areas along remote sections of the shoreline. Additionally, the bald eagles in the NRA are able to move freely from one roost site to another and always vacate an area being occupied (even temporarily) by humans.

These recommendations will be included in the Draft Uplake DCP/EA to be released for public review in mid-July. The NPS requests your concurrence with our determination.

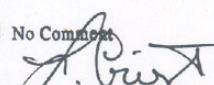
Please contact Ms. Barbara Wilson, Environmental Compliance Specialist, at 928-608-6333 or by email at Barbara_Wilson@nps.gov.

Sincerely,



Kitty L. Roberts
Superintendent

Enclosures - 16

<input type="checkbox"/>	Concur No Effect
<input checked="" type="checkbox"/>	Concur Not Likely to Adversely Affect
<input type="checkbox"/>	No Comment
	
U.S.F.W.S. - Utah Field Supervisor	
Date _____	