

TERR 6 Table 1. Reproductive and Seasonal Use Survey Locations and Site-Specific Methods.

(Approved by the Technical Working Group August 17, 2007)

Project Facility or Feature	Terrestrial TWG Approved Method
<i>Reproductive Surveys</i>	
Dams, Reservoirs, and Diversion Pools	
<i>Large Dams</i>	
Hell Hole Dam and Outlet Works	Handheld acoustic and/or infrared video sampling
<i>Medium Dams</i>	
Ralston Afterbay Dam	Visual roost survey
Water Conveyance Systems	
<i>Tunnels and Portals</i>	
Duncan Creek - Middle Fork Tunnel and Portal	Visual roost survey
<i>Intakes and Gatehouses</i>	
French Meadows - Hell Hole Tunnel Gatehouse	Handheld acoustic and/or infrared video sampling
Hell Hole-Middle Fork Tunnel Gatehouse	Handheld acoustic and/or infrared video sampling
<i>Penstocks and Valve Houses</i>	
Ralston Powerhouse Penstock and Butterfly Valve House	Handheld acoustic and/or infrared video sampling
Powerhouses, Switchyards, and Substations	
French Meadows Powerhouse and Switchyard	Handheld acoustic and/or infrared video sampling
Ralston Powerhouse and Switchyard	Handheld acoustic and/or infrared video sampling
Oxbow Powerhouse and Switchyard	Handheld acoustic and/or infrared video sampling
Ancillary Facilities	
Operator Cottages and Shop	Handheld acoustic and/or infrared video sampling
Dormitory Facility	Handheld acoustic and/or infrared video sampling
Ralston Afterbay Generator Building	Handheld acoustic and/or infrared video sampling

TERR 6 Table 1. Reproductive and Seasonal Use Survey Locations and Site-Specific Methods (continued).

(Approved by the Technical Working Group August 17, 2007)

Project Facility or Feature	Terrestrial TWG Approved Method
<i>Reproductive Surveys</i>	
<i>Seasonal Habitat Use Surveys</i>	
Dams, Reservoirs, and Diversion Pools	
<i>Large Dams</i>	
French Meadows Dam and Outlet Works	Long-term acoustic and mist net sampling
<i>Medium Dams</i>	
Middle Fork Interbay Dam	Five-night acoustic and mist net sampling
Ralston Afterbay Dam	Five-night acoustic and mist net sampling
<i>Small Dams</i>	
Duncan Creek Diversion Dam	Five-night acoustic and mist net sampling
North Fork Long Canyon Diversion Dam	Five-night acoustic and mist net sampling
South Fork Long Canyon Diversion Dam	Five-night acoustic and mist net sampling
<i>Large Reservoirs</i>	
Hell Hole Reservoir-Upper End	Long-term acoustic sampling
Water Conveyance Systems	
<i>Penstocks and Valve Houses</i>	
French Meadows Powerhouse and Penstock and Butterfly Valve House	Long-term acoustic and mist netting
Project Roads and Access Points	
<i>French Meadows Area</i>	
French Meadows-Hell Hole Tunnel Surge Shaft and Tank and Access Road	Five-night acoustic and mist net sampling

¹No minor modifications to Terrestrial Technical Working Group approved methods were implemented.

TERR 6 Table 2. Acoustic Detection and Identification Reliability for Bat Species.

Bat Species	Reliability of Call Detection	Reliability of Call Identification
Special-Status Bat Species		
Western red bat <i>Lasiurus blossevillii</i>	Readily detected	Easily identified
Townsend's big-eared bat <i>Corynorhinus townsendii</i>	Difficult to detect. Low-intensity calls.	Easily identified
Pallid bat <i>Antrozous pallidus</i>	Readily detected	Easily identified
Spotted bat <i>Euderma maculatum</i>	Difficult to detect. Low-frequency calls.	Easily identified
Western mastiff bat <i>Eumops perotis</i>	Difficult to detect. Low-frequency calls.	Easily identified
Common Bat Species		
Hoary bat <i>Lasiurus cinereus</i>	Readily detected	Easily identified
Silver-haired bat <i>Lasionycteris noctivagans</i>	Readily detected	Not easily identified. Some calls similar to big brown bat and Mexican free-tailed bat. Part of Q25 acoustic group.
Big brown bat <i>Eptesicus fuscus</i>	Readily detected	Not easily identified. Some calls similar to silver-haired bat and Mexican free-tailed bat. Part of Q25 acoustic group.
Western pipistrelle <i>Pipistrellus hesperus</i>	Readily detected	Easily identified
California myotis <i>Myotis californicus</i>	Readily detected	Not easily identified. Similar to Yuma myotis. Part of M50 acoustic group.
Western small-footed myotis <i>Myotis ciliolabrum</i>	Readily detected	Not easily identified. Similar to long-legged myotis and little brown bat. Part of M40 acoustic group.
Long-eared myotis <i>Myotis evotis</i>	Readily detected	Easily identified
Fringed myotis <i>Myotis thysanodes</i>	Readily detected	Easily identified
Long-legged myotis <i>Myotis volans</i>	Readily detected	Not easily identified. Similar to western small-footed myotis and little brown bat. Part of M40 acoustic group.
Yuma myotis <i>Myotis yumanensis</i>	Readily detected	Not easily identified. Similar to California myotis. Part of M50 acoustic group
Mexican free-tailed bat <i>Tadarida brasiliensis</i>	Readily detected	Not easily identified. Some calls similar to silver-haired bat and big brown bat. Part of Q25 acoustic group.

TERR 6 Table 3. Special-Status and Common Bat Species Detected in the Study Area.

Common Name	Scientific Name	Status ¹	Location Detected	Type of Detection				
				Roost			Acoustic Detection(s)	Individual Capture(s)
				Maternal	Night	Day		
Special-Status Bat Species								
Western red bat	<i>Lasiurus blossevillii</i>	FSS	French Meadows Dam and Outlet Works				X	
			Middle Fork Interbay Dam				X	
			Ralston Afterbay Dam				X	
			North Fork Long Canyon Diversion Dam				X	
			South Fork Long Canyon Diversion Dam				X	
			French Meadows Powerhouse and Penstock and Butterfly Valve House				X	
			Hell Hole Reservoir - Upper End				X	
Townsend's big-eared bat	<i>Corynorhinus townsendii</i>	FSS CSC	French Meadows Dam and Outlet Works				X	
			Ralston Afterbay Dam				X	
			North Fork Long Canyon Diversion Dam				X	
			Hell Hole Reservoir - Upper End				X	
			French Meadows Powerhouse and Penstock and Butterfly Valve House				X	
Pallid bat	<i>Antrozous pallidus</i>	FSS CSC	French Meadows Dam and Outlet Works					X
			Middle Fork Interbay Dam				X	
			Ralston Afterbay Dam				X	
			Duncan Creek Diversion Dam				X	
			North Fork Long Canyon Diversion Dam				X	
French Meadows Powerhouse and Penstock and Butterfly Valve House				X				
Spotted bat	<i>Euderma maculatum</i>	CSC	None					
Western mastiff bat	<i>Eumops perotis californicus</i>	CSC	None					
Common Bat Species								
Hoary bat	<i>Lasiurus cinereus</i>	—	French Meadows Dam and Outlet Works				X	
			Hell Hole Dam and Outlet Works				X	
			Middle Fork Interbay Dam				X	
			Ralston Afterbay Dam				X	
			North Fork Long Canyon Diversion Dam				X	
			South Fork Long Canyon Diversion Dam					X
			Hell Hole Reservoir - Upper End				X	
			French Meadows Powerhouse and Penstock and Butterfly Valve House				X	
			French Meadows - Hell Hole Tunnel Surge Shaft and Tank and Access Road				X	
Silver-haired bat	<i>Lasionycteris noctivagans</i>	—	French Meadows Dam and Outlet Works				X	X
			Middle Fork Interbay Dam				X	
			Ralston Afterbay Dam				X	
			Duncan Creek Diversion Dam				X	
			North Fork Long Canyon Diversion Dam				X	
			South Fork Long Canyon Diversion Dam				X	X
			Hell Hole Reservoir - Upper End				X	
			French Meadows Powerhouse and Penstock and Butterfly Valve House				X	
			French Meadows - Hell Hole Tunnel Surge Shaft and Tank and Access Road				X	
Big brown bat	<i>Eptesicus fuscus</i>	—	French Meadows Dam and Outlet Works				X	
			Middle Fork Interbay Dam				X	
			Ralston Afterbay Dam				X	
			Duncan Creek Diversion Dam				X	
			North Fork Long Canyon Diversion Dam				X	
			South Fork Long Canyon Diversion Dam				X	
			Hell Hole Reservoir - Upper End				X	
			French Meadows Powerhouse and Penstock and Butterfly Valve House				X	
			French Meadows - Hell Hole Tunnel Surge Shaft and Tank and Access Road				X	
Western pipistrelle	<i>Pipistrellus hesperus</i>	—	French Meadows Dam and Outlet Works				X	
			Middle Fork Interbay Dam				X	
			Ralston Afterbay Dam				X	
			Duncan Creek Diversion Dam				X	
			North Fork Long Canyon Diversion Dam				X	
			Hell Hole Reservoir - Upper End				X	
			French Meadows Powerhouse and Penstock and Butterfly Valve House				X	
California myotis	<i>Myotis californicus</i>	—	Middle Fork Interbay Dam					X
			South Fork Long Canyon Diversion Dam					X
Long-eared myotis	<i>Myotis evotis</i>	—	French Meadows Dam and Outlet Works				X	
			Middle Fork Interbay Dam				X	
			Ralston Afterbay Dam				X	
			Duncan Creek Diversion Dam				X	
			North Fork Long Canyon Diversion Dam				X	
			South Fork Long Canyon Diversion Dam				X	
			Hell Hole Reservoir - Upper End				X	
French Meadows - Hell Hole Tunnel Surge Shaft and Tank and Access Road				X				

TERR 6 Table 3. Special-Status and Common Bat Species Detected in the Study Area (continued).

Common Name	Scientific Name	Status ¹	Location Detected	Type of Detection				
				Roost			Acoustic Detection(s)	Individual Capture(s)
				Maternal	Night	Day		
Common Bat Species (continued)								
Fringed myotis	<i>Myotis thysanodes</i>	—	French Meadows Dam and Outlet Works				X	
			Middle Fork Interbay Dam				X	
			Ralston Afterbay Dam				X	
			Duncan Creek Diversion Dam				X	
			South Fork Long Canyon Diversion Dam				X	
			Hell Hole Reservoir - Upper End				X	
			French Meadows Powerhouse and Penstock and Butterfly Valve House				X	
Yuma myotis	<i>Myotis yumanensis</i>	—	French Meadows Dam and Outlet Works					X
			Middle Fork Interbay Dam					X
			Ralston Afterbay Dam	X		X		X
			South Fork Long Canyon Diversion Dam					X
			Ralston Powerhouse Penstock and Butterfly Valve House		X			
			French Meadows Powerhouse and Switchyard		X			
			Ralston Powerhouse and Switchyard	X		X		
			Operator Shop and Cottages	X				
<i>Myotis</i> spp.	—	—	French Meadows - Hell Hole Tunnel Gatehouse		X	X		
			Hell Hole - Middle Fork Tunnel Gatehouse		X	X		
			Ralston Powerhouse Penstock and Butterfly Valve House		X			
			French Meadows Powerhouse and Switchyard		X			
			Oxbow Powerhouse and Switchyard		X	X		
			Operator Cottages and Shop	X				
			Ralston Afterbay and Generator Building		X			
Mexican free-tailed bat	<i>Tadarida brasiliensis</i>	—	French Meadows Dam and Outlet Works				X	
			Middle Fork Interbay Dam				X	
			Ralston Afterbay Dam				X	
			Duncan Creek Diversion Dam				X	
			North Fork Long Canyon Diversion Dam				X	
			French Meadows Powerhouse and Penstock and Butterfly Valve House				X	
Q25 Acoustic group (silver-haired, Mexican free-tailed, and big brown bat) ²	<i>(Lasionycteris noctivagans, Tadarida brasiliensis, and Eptesicus fuscus)</i>	—	French Meadows Dam and Outlet Works				X	
			Middle Fork Interbay Dam				X	
			Ralston Afterbay Dam				X	
			Duncan Creek Diversion Dam				X	
			North Fork Long Canyon Diversion Dam				X	
			South Fork Long Canyon Diversion Dam				X	
			Upper End of Hell Hole Reservoir				X	
			French Meadows Powerhouse and Penstock and Butterfly Valve House				X	
M50 Acoustic group (Yuma and California myotis) ²	<i>(Myotis yumanensis and Myotis californicus)</i>	—	French Meadows Dam and Outlet Works				X	
			Hell Hole Dam and Outlet Works				X	
			Middle Fork Interbay Dam				X	
			Duncan Creek Diversion Dam				X	
			North Fork Long Canyon Diversion Dam				X	
			South Fork Long Canyon Diversion Dam				X	
			Upper End of Hell Hole Reservoir				X	
			French Meadows Powerhouse and Penstock and Butterfly Valve House				X	
			Ralston Powerhouse and Switchyard				X	
			Oxbow Powerhouse and Switchyard				X	
			Dormitory Facility				X	
M40 Acoustic group (long-legged, little brown, and western small footed myotis) ²	<i>(Myotis volans, Myotis lucifugus, and Myotis ciliolabrus)</i>	—	French Meadows Dam and Outlet Works				X	
			Hell Hole Dam and Outlet Works				X	
			Middle Fork Interbay Dam				X	
			Ralston Afterbay Dam				X	
			Duncan Creek Diversion Dam				X	
			North Fork Long Canyon Diversion Dam				X	
			South Fork Long Canyon Diversion Dam				X	
			Hell Hole Reservoir - Upper End				X	
French Meadows Powerhouse and Penstock and Butterfly Valve House				X				
French Meadows - Hell Hole Tunnel Surge Shaft and Tank and Access Road				X				

¹FSS = Forest Service Sensitive, CSC = California Species of Special Concern

²Some echolocation calls fall within a similar frequency range and are combined as a group because species-specific identification is not possible.

TERR 6 Table 4. Bat Roosts Detected in the Study Area.

Facilities or Features	Method Facility Assessment	Implemented Visual Roost Survey	Handheld Acoustic Samplings	Infrared Video Sampling	Roost Type	Species	Status
Dams, Reservoirs and Diversion Pools							
<i>Medium Dams</i>							
Ralston Afterbay Dam	√	+			Maternal/day roost	Yuma myotis	Common species
Water Conveyance Systems							
<i>Intakes and Gatehouses</i>							
French Meadows - Hell Hole Tunnel Gatehouse	+			+	Night/day roost	<i>Myotis</i> spp.	Common species
Hell Hole - Middle Fork Tunnel Gatehouse	+			+	Night/day roost	<i>Myotis</i> spp.	Common species
<i>Penstocks and Valve Houses</i>							
Ralston Powerhouse Penstock and Butterfly Valve House	√	+			Night roost	<i>Myotis</i> spp.	Common species
<i>Powerhouses, Switchyards and Substations</i>							
French Meadows Powerhouse and Switchyard	√	+			Night roost	<i>Myotis</i> spp including Yuma myotis	Common species
Ralston Powerhouse and Switchyard	+		+	+	Maternal/day roost	Yuma myotis	Common species
Oxbow Powerhouse and Switchyard	√		+	+	Night/day roost	<i>Myotis</i> spp.	Common species
<i>Ancillary Facilities</i>							
Operator Cottages and Shop	+	+			Maternal roost	<i>Myotis</i> spp.	Common species
Ralston Afterbay Generator Building	√			+	Night roost	<i>Myotis</i> spp.	Common species

√ = Roost identified, species unknown

+ = Roost identified, species known

TERR 6 Table 5. Existing Project Facility Assessment Results.

Project Facility or Feature	Date Surveyed	Facility Suitable for Bat Use (y/n)	Interior of Facility Accessible to Bats (y/n)	Sign of Bat Use (y/n)
Dams, Reservoirs, and Diversion Pools				
Large Dams				
French Meadows Dam and Outlet Works	22-Jun-07	Yes; riprap; alcove has cool temp	N/A	No
Hell Hole Dam and Outlet Works	20-Jun-07	Yes; riprap; bridge	N/A	No
Medium Dams				
Middle Fork Interbay Dam	21-Jun-07	Yes; bridge	No	No
Ralston Afterbay Dam	21-Jun-07	Yes; sluice valve, galley, & alcoves	Yes; mesh gate into galley; bottom of sluice valve open	Yes; minor day roost in spare rags in galley; guano inside sluice valve
Small Dams				
Duncan Creek Diversion Dam	20-Jun-07	No	No	No
North Fork Long Canyon Diversion Dam	22-Jun-07	No	No	No
South Fork Long Canyon Diversion Dam	22-Jun-07	No	No	No
Large Reservoirs				
All Large Reservoirs	N/A ¹	No	No	No
Medium Reservoirs				
All Medium Reservoirs	N/A ¹	No	No	No
Small Diversion Pools				
All Small Diversion Pools	N/A ¹	No	No	No
Water Conveyance Systems				
Tunnels				
Duncan Creek - Middle Fork Tunnel	20-Jun-07	Yes; inlet dry, outlet may be seasonably dry	Yes; at inlet	Unknown
French Meadows - Hell Hole Tunnel	N/A ¹	No; underground facility	No	No
Hell Hole - Middle Fork Tunnel	N/A ¹	No; underground facility	No	No
Middle Fork - Ralston Tunnel	N/A ¹	No; underground facility	No	No
Ralston - Oxbow Tunnel	N/A ¹	No; underground facility	No	No

TERR 6 Table 5. Existing Project Facility Assessment Results (continued).

Project Facility or Feature	Date Surveyed	Facility Suitable for Bat Use (y/n)	Interior of Facility Accessible to Bats (y/n)	Sign of Bat Use (y/n)
Water Conveyance Systems (continued)				
Diversion Pipes and Drop Inlets				
North Fork Long Canyon Diversion Pipe and Drop Inlet	22-Jun-07	No	No	No
South Fork Long Canyon Diversion Pipe and Drop Inlet	22-Jun-07	No	No	No
Surge Shafts and Adits				
Brushy Canyon Adit	N/A ¹	No; buried by landslide	No	No
Hell Hole - Middle Fork Tunnel Surge Shaft and Tank	N/A ¹	No	No	No
Middle Fork - Ralston Tunnel Surge Shaft and Tank	21-Jun-07	No	No	No
Removable Sections and Portals				
Duncan Creek - Middle Fork Tunnel Portal	20-Jun-07	Yes; inlet dry, outlet may be seasonably dry	Yes; at inlet	Unknown
All Other Removable Sections and Portals	N/A ¹	No	No	No
Intakes and Gatehouses				
Duncan Creek - Middle Fork Tunnel Intake	20-Jun-07	No	No	No
French Meadows - Hell Hole Tunnel Gatehouse	21-Jun-07	Yes; inside of gatehouse	Yes; cracks around sliding door and roof line	Yes; moderate night roost, single day roost (<i>Myotis</i> sp)
French Meadows - Hell Hole Tunnel Intake	N/A ¹	No; underwater	No	No
Hell Hole - Middle Fork Tunnel Gatehouse	22-Jun-07	Yes; inside of gatehouse	Yes; cracks at doors	Yes; minor night roost, single day roost (<i>Myotis</i> sp)
Hell Hole - Middle Fork Tunnel Intake	N/A ¹	No; underwater	No	No
Middle Fork - Ralston Tunnel Intake and Gatehouse	21-Jun-07	No ²	No	No
Ralston - Oxbow Tunnel Intake	21-Jun-07	No ²	No	No

TERR 6 Table 5. Existing Project Facility Assessment Results (continued).

Project Facility or Feature	Date Surveyed	Facility Suitable for Bat Use (y/n)	Interior of Facility Accessible to Bats (y/n)	Sign of Bat Use (y/n)
Water Conveyance Systems (continued)				
Penstocks and Valve Houses				
French Meadows Powerhouse Penstock and Butterfly Valve House	22-Jun-07	Yes; inside structure	Yes; cracks	No
Middle Fork Powerhouse Penstock and Butterfly Valve House	21-Jun-07	Yes; inside structure	Yes; cracks	No
Ralston Powerhouse Penstock and Butterfly Valve House	21-Jun-07	Yes; inside structure	Yes	Yes; no interior use; minor night roost in relief valve alcove
Powerhouses, Switchyards, and Substations				
French Meadows Powerhouse and Switchyard	22-Jun-07	Yes; alcove under PH	No	Yes; extensive night roost
Hell Hole Powerhouse	22-Jun-07	Yes; mesh gate	No	No
Middle Fork Powerhouse and Upper and Lower Switchyards	21-Jun-07	Yes; open areas under PH	No	No
Ralston Powerhouse and Switchyard	21-Jun-07	Yes; garage	Yes; garage only: cracks around doors and gaps at windows	Yes; large maternity day roost (<i>Myotis yumanensis</i>)
Oxbow Powerhouse and Switchyard	21-Jun-07	Yes; alcove under PH; winch, peeled flashing on PH building	Yes; cracks in door and hatch of PH building	Yes; extensive night roost in alcoves under PH, day roost in winch, minor night roost inside PH, single day roost in peeled flashing
Hell Hole Substation	22-Jun-07	No; no structure	No	No

TERR 6 Table 5. Existing Project Facility Assessment Results (continued).

Project Facility or Feature	Date Surveyed	Facility Suitable for Bat Use (y/n)	Interior of Facility Accessible to Bats (y/n)	Sign of Bat Use (y/n)
Gaging Stations and Weirs				
Stream Gages and Weirs				
All Stream Gages and Weirs	20-Jun-07	No	No	No
Diversion Gages				
All Diversion Gages	20-Jun-07	No	No	No
Reservoir Gages				
All Reservoir Gages	N/A ¹	No	No	No
Powerhouse Gages				
All Powerhouse Gages	N/A ¹	No	No	No
Leakage Weirs				
All Leakage Weirs	N/A ¹	No	No	No
Project Communication Lines and Powerlines				
French Meadows Area				
All French Meadows Area Powerlines	N/A ¹	No	No	No
Hell Hole Area				
All Hell Hole Area Communication Lines and Powerlines	N/A ¹	No	No	No
Middle Fork Interbay Area				
All Middle Fork Interbay Area Communication Lines and Powerlines	N/A ¹	No	No	No
Ralston - Oxbow Area				
All Ralston - Oxbow Area Communication Lines and Powerlines	N/A ¹	No	No	No
Photovoltaic Poles and Powerlines				
All Photovoltaic Poles and Powerlines	N/A ¹	No	No	No
Microwave Reflectors and Radio Towers				
All Microwave Reflectors and Radio Towers	N/A ¹	No	No	No

TERR 6 Table 5. Existing Project Facility Assessment Results (continued).

Project Facility or Feature	Date Surveyed	Facility Suitable for Bat Use (y/n)	Interior of Facility Accessible to Bats (y/n)	Sign of Bat Use (y/n)
Disposal Sites				
All Disposal Sites	N/A ¹	No	No	No
Ancillary Facilities				
French Meadows Dam Generator Building	20-Jun-07	Yes; corrugated roof edges	No	No
Dormitory Facility	23-Jun-07	Yes; roof edges	No	Unknown
Dormitory and Cottages Water Supply Tank	23-Jun-07	No	No	No
Hell Hole Staging Areas	N/A ¹	No	No	No
Operator Cottages and Shop	22-Jun-07	Yes; peeled flashing and roof trim	Yes; shop has interior access, but not cottages	Yes; small maternity colonies in roof trim (<i>Myotis</i> spp.)
Ralston Afterbay Generator Building	21-Jun-07	Yes	Yes; small cracks around pipe	Yes; trace night roost guano
Storage Building at Middle Fork - Ralston Tunnel surge Shaft and Tank	21-Jun-07	Yes	Yes; wide gage screening	No
Wabena Meadows Snow Course	N/A ¹	No	No	No
Miranda Cabin Snow Course	N/A ¹	No	No	No
Diamond Crossing Snow Course	N/A ¹	No	No	No
Talbot Camp Snow Course	N/A ¹	No	No	No
Project Fences				
All Slope Fences	N/A ¹	No	No	No
All Public Safety Fences	N/A ¹	No	No	No
Project Roads and Access Points				
Duncan Creek Area				
All Duncan Creek Area Roads and Access Points	N/A ¹	No	No	No

TERR 6 Table 5. Existing Project Facility Assessment Results (continued).

Project Facility or Feature	Date Surveyed	Facility Suitable for Bat Use (y/n)	Interior of Facility Accessible to Bats (y/n)	Sign of Bat Use (y/n)
Project Roads and Access Points (continued)				
French Meadows Area				
All French Meadows Area Roads and Access Points	N/A ¹	No	No	No
Hell Hole Area				
All Hell Hole Area Roads and Access Points	N/A ¹	No	No	No
Long Canyon Area				
All Long Canyon Area Roads and Parking Area	N/A ¹	No	No	No
Middle Fork Interbay Area				
All Middle Fork Interbay Area Roads and Access Points	N/A ¹	No	No	No
Ralston - Oxbow Area				
All Ralston - Oxbow Area Roads, Access Points, and Boat Ramp	N/A ¹	No	No	No
Project Trails				
Duncan Creek Area				
All Duncan Creek Area Trails	N/A ¹	No	No	No
French Meadows Area				
All French Meadows Area Trails	N/A ¹	No	No	No
Middle Fork Interbay Area				
All Middle Fork Interbay Area Trails	N/A ¹	No	No	No
Ralston - Oxbow Area				
All Ralston - Oxbow Area Trails	N/A ¹	No	No	No

¹Project facility determined to be unsuitable for bat use based on consultation with PCWA maintenance staff or evaluation of similar facility.

²Project facility does not represent potential bat habitat at this time. Facility could provide habitat in the future if access to the interior of the facility is permitted overtime (e.g., cracks around doors or roof line).

TERR 6 Table 6. Existing Project Recreation Facility Assessment Results.

Recreation Facility	Date Surveyed	Associated Restroom Facilities ¹			Facility Suitable for Bat Use/Sign of Bat Use
		Number of Pit Restrooms	Number of Flush Restrooms	Number of Pre-Fabricated Restrooms	
French Meadows Area					
Ahart Campground	20-Jun-07	2	0	0	No
Coyote Group Campground	20-Jun-07	3	1	0	No
Poppy Campground	N/A ²	1	0	0	No
French Meadows Campground	20-Jun-07	3	3	0	No
Gates Group Campground	20-Jun-07	4	0	0	No
Lewis Campground	20-Jun-07	2	2	0	No
French Meadows Picnic Area	20-Jun-07	1	0	0	No
McGuire Picnic Area	20-Jun-07	0	2	0	No
French Meadows Boat Ramp	20-Jun-07	0	1	0	No
McGuire Boat Ramp	20-Jun-07	1	1	0	No
Dolly Creek Water Supply	N/A ²	0	0	0	No
French Meadows Campground Water Supply	N/A ²	0	0	0	No
Hell Hole Area					
Big Meadows Campground	23-Jun-07	1	2	3	No
Hell Hole Campground	23-Jun-07	0	0	1	No
Upper Hell Hole Campground	N/A ²	1	0	0	No
Hell Hole Vista	22-Jun-07	0	0	1	No
Hell Hole General Parking Area	23-Jun-07	0	0	1	No
Hell Hole Boat Ramp Parking Area	21-Jun-07	0	0	1	No
Hell Hole Boat Ramp	21-Jun-07	0	0	0	No
Big Meadows Campground Water Supply	23-Jun-07	0	0	2	No
Ralston Afterbay Area					
Ralston Picnic Area	23-Jun-07	0	0	1	No
Ralston Picnic Area Cartop Boat Ramp	23-Jun-07	0	0	0	No
Indian Bay Boating Access					

TERR 6 Table 7. Minor Modifications to Reproductive and Seasonal Use Site-Specific Survey Methods.

Project Facility or Feature	Terrestrial TWG Approved Method	Method Implemented	Rationale
<i>Reproductive Surveys</i>			
Water Conveyance Systems			
<i>Penstocks and Valve Houses</i>			
Ralston Powerhouse Penstock and Butterfly Valve House	Handheld acoustic and/or infrared video sampling	Visual roost survey	Visual inspection was sufficient to determine bat species and bat use at this facility.
Powerhouses, Switchyards, and Substations			
French Meadows Powerhouse and Switchyard	Handheld acoustic and/or infrared video sampling	Visual roost survey	Visual inspection was sufficient to determine bat species and bat use at this facility.
Ancillary Facilities			
Operator Cottages and Shop	Handheld acoustic and/or infrared video sampling	Visual roost survey	Visual inspection was sufficient to determine bat species and bat use at this facility.
<i>Seasonal Habitat Use Surveys</i>			
Dams, Reservoirs, and Diversion Pools			
<i>Large Dams</i>			
<i>Medium Dams</i>			
Ralston Afterbay Dam	Five-night acoustic and mist net sampling	Long-term acoustic and mist net sampling	Voluntary enhancement: long-term acoustic sampling was conducted at this site instead of five-night acoustic sampling. Mist net surveys were conducted at the Ralston Picnic Area where site conditions (e.g., topography and vegetative cover) were more appropriate to maximize bat captures.
<i>Small Dams</i>			
Duncan Creek Diversion Dam	Five-night acoustic and mist net sampling	Five-night acoustic	Duncan Creek Bridge construction activities were ongoing; therefore mist netting was not completed at this site.
Water Conveyance Systems			
<i>Penstocks and Valve Houses</i>			
French Meadows Powerhouse and Penstock and Butterfly Valve House	Long-term acoustic and mist netting	Long-term acoustic sampling	Site topography and vegetative cover was not appropriate for mist net surveys.

TERR 6 Table 8. Summary of Visual Roost Reproductive Survey Results.

Project Facility	Date Surveyed	Sign of Bat Use	Bat Species Observed	Status
Dams, Reservoirs, and Diversion Pools				
<i>Large Dams</i>				
Hell Hole Dam and Outlet Works	9/20/2007	No	-	-
<i>Medium Dams</i>				
Ralston Afterbay Dam	8/14/2007	Maternity colony roosting in a crevice-like feature underneath the dam deck.	Yuma myotis	Common Species
Water Conveyance Systems				
<i>Tunnels and Portals</i>				
Duncan Creek Middle Fork Tunnel and Portal	8/14/2007	No sign of bat use	-	-
<i>Penstocks and Valve Houses</i>				
Ralston Powerhouse Penstock and Butterfly Valve House	9/20/2007	No interior use; minor night roost in relief valve alcove.	<i>Myotis</i> spp.	Common Species
Powerhouses, Switchyards, and Substations				
French Meadows Powerhouse and Switchyard	9/20/2007 & 10/11/2007	Extensive night roost.	<i>Myotis</i> spp., including Yuma myotis	Common Species
Ancillary Facilities				
Operator Shop and Cottages	10/11/2007	Small maternity colonies in roof trim detected in June. Crevice was sealed up after reproductive season and all bats had left roost so bats could not re-enter. No sign of bat use or access during October survey.	<i>Myotis</i> spp.	Common Species

TERR 6 Table 9. Summary of Handheld Acoustic Reproductive Survey Results.

Project Facility or Feature	Date Surveyed	Bat Species Detected	
		Species Detected	Status
Dams, Reservoirs, and Diversion Pools			
<i>Large Dams</i>			
Hell Hole Dam and Outlet Works ³	9/20/2007	Hoary bat	Common species
		M50 acoustic group ¹	Common species
		M40 acoustic group ²	Common species
Powerhouses, Switchyards, and Substations			
Oxbow Powerhouse and Switchyard	8/14/2007	M50 acoustic group	Common species
Ralston Powerhouse and Switchyard	6/23/2007	M50 acoustic group	Common species
Ancillary Facilities			
Dormitory Facility ³	8/13/2007	M50 acoustic group	Common species

¹Echolocation calls for Yuma myotis and California myotis fall within a similar frequency range and are combined into the M50 acoustic group because species-specific identification is not possible.

²Echolocation calls for long-legged myotis, little brown bat, and western small-footed myotis fall within a similar frequency range and are combined into the M40 acoustic group because species-specific identification is not possible.

³Bat calls at this facility were not associated with roosting activity

TERR 6 Table 10. Summary of Infrared Video Reproductive Survey Results.

Project Facility or Feature	Date Surveyed	Bat Species Detected	
		Species Detected	Status
Water Conveyance Systems			
<i>Intakes and Gatehouses</i>			
French Meadows - Hell Hole Tunnel Gatehouse	9/21/07 and 9/22/07	<i>Myotis</i> spp.	Common species
Hell Hole - Middle Fork Tunnel Gatehouse	9/21/07 and 9/22/07	<i>Myotis</i> spp.	Common species
Powerhouses, Switchyards, and Substations			
Ralston Powerhouse and Switchyard	6/23/07	Yuma myotis	Common species
Oxbow Powerhouse and Switchyard	8/15/07	<i>Myotis</i> spp.	Common species
Ancillary Facilities			
Ralston Afterbay Generator Building	8/14/07	<i>Myotis</i> spp.	Common species

TERR 6 Table 11. Summary of Long-Term Acoustic Seasonal Habitat Use Survey Results.

Project Facility or Feature	Date Surveyed	Bat Species Detected ¹														
		Special-Status Species					Common Species									
		Western red bat	Townsend's big-eared bat	Pallid bat	Spotted bat	Western mastiff bat	Hoary bat	Silver-haired bat	Big brown bat	Western pipistrelle	Fringed myotis	Long-eared Myotis	Mexican free-tailed bat	Q25 acoustic group ²	M50 acoustic group ³	M40 acoustic group ⁴
Dams, Reservoirs, and Diversion Pools																
Large Dams																
French Meadows Dam and Outlet Works	Aug-Oct 2007	X	X	X	-	-	X	X	X	X	X	X	X	X	X	X
Medium Dams																
Ralston Afterbay Dam	Aug-Oct 2007	X	X	X	-	-	X	X	X	X	X	X	X	X	-	X
Large Reservoirs																
Hell Hole Reservoir - Upper End	Aug-Oct 2007	X	X	-	-	-	X	X	X	X	X	X		X	X	X
Water Conveyance Systems																
Penstocks and Valve Houses																
French Meadow Powerhouse and Penstock and Butterfly Valve House	Aug-Oct 2007	X	X	X	-	-	X	X	X	X	X	X	X	X	X	X

¹Present based on echolocation recordings collected

²Some echolocation calls for silver-haired bat, big brown bat, and Mexican free-tailed bat fall within a similarly frequency range and re combined into the Q25 acoustic group because species specific identification is not possible

³Echolocation calls for Yuma myotis and California myotis fall within a similar frequency range and are combined into the M50 acoustic group because species-specific identification is not possible.

⁴Echolocation calls for long-legged myotis, little brown bat, and western small-footed myotis fall within a similar frequency range and are combined into the M40 acoustic group because species-specific identification is not possible.

TERR 6 Table 12. Summary of Mist Net Seasonal Habitat Use Survey Results.

Project Facility or Feature	Date Surveyed	Species Captured	Age Class	Sex	Reproductive Status¹	Forearm Length (mm)
Dams, Reservoir, and Diversion Pools						
Large Dams						
French Meadows Dam and Outlet Works	8/13/07	Yuma myotis	Adult	Male	Non	34.14
		Yuma myotis	Adult	Male	Non	34.61
		silver-haired bat	Adult	Female	Lactating	42.28
	10/11/07	Yuma myotis	Adult	Male	Non	33.09
		Yuma myotis	Adult	Male	Non	34.35
Medium Dams						
Middle Fork Interbay Dam	9/21/07	Yuma myotis	Adult	Female	Post-lactating	35.02
		Yuma myotis	Adult	Female	Post-lactating	34.20
		California myotis	Adult	Male	Non	31.97
		Yuma myotis	Adult	Male	Non	34.16
		Yuma myotis	Adult	Male	Non	35.44
		Yuma myotis	Juvenile	Male	Non	33.97
Small Dams						
North Fork Long Canyon Diversion Dam	9/28/07	No captures	N/A	N/A	N/A	N/A
South Fork Long Canyon Diversion Dam	9/27/07	hoary bat	Adult	Male	Non	53.36
		silver-haired bat	Adult	Male	Non	40.19
		California myotis	Adult	Female	Post-lactating	32.10
		Yuma myotis	Adult	Male	Non	34.17
		Yuma myotis	Adult	Female	Post-lactating	35.92
		Yuma myotis	Adult	Female	Post-lactating	36.49

TERR 6 Table 12. Summary of Mist Net Seasonal Habitat Use Survey Results (continued).

Project Feature or Facility	Date Surveyed	Species Captured	Age Class	Sex	Reproductive Status ¹	Forearm Length (mm)
Project Roads and Access Points						
<i>French Meadows Area</i>						
French Meadows - Hell Hole Tunnel Surge Shaft and Tank and Access Road	9/20/07	No captures	N/A	N/A	N/A	N/A
Project Recreation Facilities						
<i>Ralston Afterbay Area</i>						
Ralston Afterbay Picnic Area	8/15/07	Yuma myotis	Adult	Male	Non	33.92
		Yuma myotis	Adult	Male	Non	33.82
		Yuma myotis	Juvenile	Male	Non	34.45
		Yuma myotis	Juvenile	Male	Non	33.62
		Yuma myotis	Adult	Female	Non	34.43
		Yuma myotis	Adult	Female	Post-lactating	34.27
		Yuma myotis	Adult	Female	Nulliparous	35.01
		Yuma myotis	Adult	Female	Nulliparous	34.83
		Yuma myotis	Juvenile	Female	Nulliparous	35.16
		Yuma myotis	Adult	Female	Nulliparous	34.51

¹Reproductive status includes the following: **Pregnant** = carrying developing offspring; **Lactating** = given birth this season, currently nursing young; **Post-lactating** = with exposed but reduced nipples; **Parous** = given birth, but not currently reproductively active; **Nulliparous** = never given birth; **Non** = Non-reproductive