

Rocky Reach Relicensing



Natural Sciences Working Group Meeting
Study Update
July 27, 2000

Mule Deer Mortality



Water Quality Monitoring

- Sampling has been completed for October 1999 - July 2000. Two quarterly reports are available.
- Sampling station 2L was relocated for more suitable substrate for ABA monitoring.
- Sampling will continue through September.
- Next quarterly report is due August, 2000

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Water Quality (continued): Temperature Monitoring

- **Purpose:** To compare existing water temperature with water quality standards and determine Project-related impacts on water temperature.
- **Standard:** When natural conditions exceed 18.0°C, Project should not raise the temperature by greater than 0.3°C (WAC 173-201A-030).
- **Approach:**
 - assess existing data to describe and characterize reservoir inflows
 - use continuously recording thermographs to document water temperature variability during warm summer months.
- Sample locations are representative of the project area. Thermographs were placed at 1P, 2P, 4P, 5P.

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Bull Trout Monitoring

☛ Biological Phase:

- Tagging and monitoring to be completed by BioAnalysts.
- Scope expanded to include Grant and Douglas PUD projects
- Fixed, aerial, and boat surveys in RR and RI pools.
- Ground surveys at dams and Entiat & Wenatchee confluence.
- Forty adults to be tagged (RI = 10, RR = 20, Wells = 10).
- Timetable:
 - Aug 2000 Begin Literature Review & capture methods
 - Aug - Jan 2000 Secure permits
 - Apr - July 2001 Capture, tag
 - Jul 01 - Mar 02 Monitor
 - Mar 2002 Begin data analysis
 - Jun 2002 Final Report

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Bull Trout Monitoring continued

■ Engineering:

- Traps to be designed for RR and RI dams.
- Traps must not interfere with other ESA listed species
- Chelan PUD currently evaluating consultants
- Timetable
 - Aug - Sep 2000 Design trap
 - Oct 2000 Bid and award construction contract
 - Nov - Dec 2000 Construction
 - Jan 2001 Testing and commissioning
 - Feb 2001 Project complete

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Fish presence and habitat use

■ Sampling:

- Sampling has been completed for fall (Oct 1999) and spring sessions (May 2000). Summer session will begin Aug 8, 2000
- Methods have included Fyke nets, beach seines, Gee traps, swim surveys, and angling. Summer session may include more active methods.

■ Schedule:

- October Fall Session
- May Spring Session
- August Summer Session

- Sampling has been completed for fall (Oct 1999) and spring sessions (May 2000). Summer session will begin Aug 8, 2000

■ Preliminary Results (see handout Tables A1 & A2)

- Species collected to date: three spined stickleback, pikeminnow, redbside shiner, chiselmouth, peamouth, largescale sucker, small numbers of rainbow trout

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Fish presence and habitat use - White Sturgeon update

- Literature review on sturgeon to be completed as part of Aquatic Habitat Mapping study
- Permits should allow active sampling techniques for summer sampling (August).
- **Grant PUD White Sturgeon Study**
 - Setlines deployed April - May
 - 10 females and 11 males found at Wanapum
 - Size ranged from 150 - 220 cm
 - 2 pre-spawning females, one pre-spawning male
 - Tagged for temperature, depth, and location
 - Artificial substrate mats have been placed and no eggs have been observed as of June 23.

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Literature Investigations

■ **Six issues:**

- Pacific Lamprey
- Sports Access on the Wenatchee River
- Function of Large Woody Debris
- Sediment Transport
- Resident and Anadromous Fish Interactions
- Pool Operations Assessment

■ **BioAnalysts selected to complete the investigation.**

Aquatic Habitat Survey

- 40 transects measured in August 1999
- DE&S currently simulating depths, velocities, cover and substrate
- Fish Presence & Habitat Use results will be used to develop utilization curves.
- Additional transects may be required to model sturgeon habitat

Creel Census

- DE&S surveyed from April through end of July, 2000
- Reservoir surveyed in morning and evening of each survey day.
- As of July 22, 2000 (see last page of handout):
 - 83 anglers surveyed
 - 39 interviews
 - 3 smallmouth, 12 walleye, 26 other
- Effort very low.

Benthic Analysis

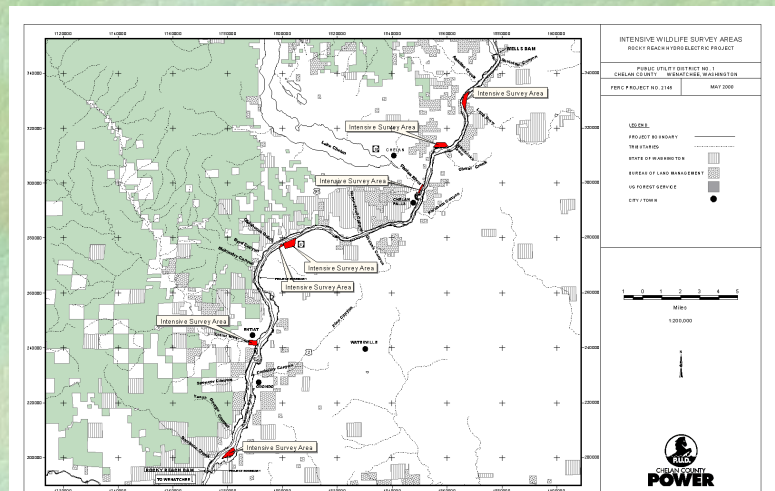
- Macroinvertebrates sampled by DE&S in September and October 1999
- Mollusks sampled by DE&S in November 1999.
- All field surveys and taxonomy work complete.

RTE Plant Survey

- **Sampling:** Boat and ground surveys 90 percent complete as of July 25.
- Species found (see handout):
 - Giant helleborine State sensitive
 - Porcupine sedge State sensitive
 - Adder's-tongue State threatened
 - Strict blue-eyed grass new to Washington
 - Little bluestem new to Washington
- Porcupine sedge greatly increased since 1991
- Giant helleborine increased since 1990

RTE Wildlife survey

- **Intensive survey areas:** Turtle Rock, Entiat River, Sun Cove riparian, Sun Cove shrub-steppe, Beebe Bridge riparian, Gallagher Flats, and Uplake shrub-steppe.
- Breeding bird, small mammal, bat, reptile, amphibian, and habitat surveys completed at 7 "intensive" survey sites.



RTE Wildlife survey (continued)

Sun Cove Shrub-steppe & wetland



Turtle Rock Shrub-steppe



Sun Cove Riparian

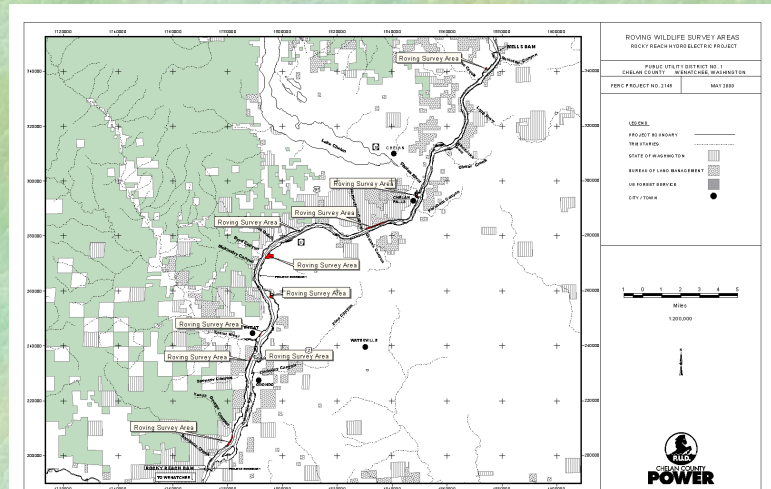


Turtle Rock wetland



RTE Wildlife survey (continued)

- **Roving areas:** PUD riparian west of Turtle Rock, islands south of Entiat River, Entiat Park, Orondo School riparian, Daroga Park, Earthquake Point islands, Bundy shrub-steppe, Goosetail Rock, Chelan Butte WMA, Chelan Falls Park, and Azwell riparian.
- Breeding bird and limited bat, reptile, amphibian, and habitat surveys completed at 11 roving survey sites.



RTE Wildlife survey (continued)

■ **Preliminary Results:** See handout Tables 1-4

■ **Work Remaining:**

- Complete bat surveys and analyze recordings
- Complete small mammal identification
- Analysis and reporting