

AQUATICS
RECENT DEVELOPMENT: 1035 LB. MAKO SHARK



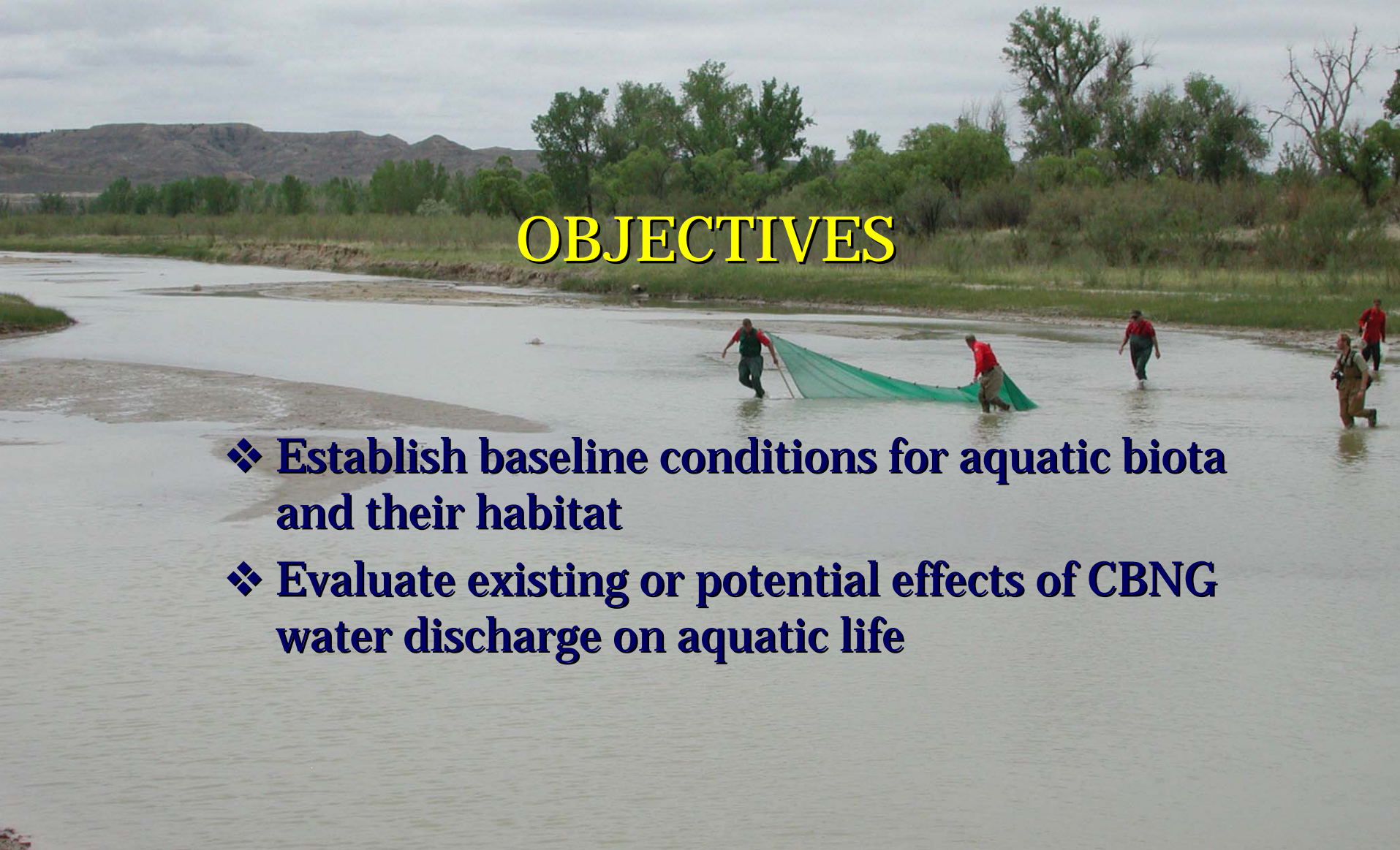
**THE SHARK TOOK OFF TOWING THE 42 FOOT FISHING BOAT BACKWARDS
@ 7 KNOTS FOR 1 HR, CAUSING THE BOAT TO TAKE ON WATER.**



AQUATIC BIOTA MONITORING PLAN

OBJECTIVES

- ❖ Establish baseline conditions for aquatic biota and their habitat
- ❖ Evaluate existing or potential effects of CBNG water discharge on aquatic life



Aquatics cont.

Two Components

Monitoring -

- ❖ Conducted for several years (Long term trends)
- ❖ On a basin or regional scale

Research -

- ❖ More site specific
- ❖ Targeting effects to fish



**Results from each will be
useful towards meeting
overall objectives**

Monitoring

Plan consists of four primary subsections:

- Aquatic Habitat
- Riparian Habitat
- Fish
- Macroinvertebrates

Monitoring Cont.

- 48 total sites monitored by USGS:
 - Rosebud Creek (MT): 1 site
 - Tongue River (MT & WY): 16 MT/4 WY
 - Powder River (MT & WY): 4MT/13WY
 - Cheyenne River (Wyoming): 6 sites
 - Belle Fourche (Wyoming): 4 sites

Each of the subsection components would be assessed at each site.

(In addition, Wyoming is sampling periphyton and collecting more data in relation to instream habitat.)

Cost:

FY 05 - Total: \$463,727.42 (fully funded)

FY 06 - Total: \$203,944 (Not funded)



Research

Three subsections

1. Literature review and study plan to Assess the effects of CBNG activities on fish assemblages.
2. Development of a Prairie Fish Index of Biotic integrity for Streams in MT and WY.
3. Impacts to Amphibians and Reptiles

Research cont.

1. Literature and study plan

- ❖ Study Plan Began last year will continue with field work this year.

\$67,029 contributed
\$69,000 to complete



Additional Research conducted in the area.

- ◆ Other research conducted: assessment of the toxicity of the major salt (sodium bicarbonate) from CBNG production on fishes. Completed by FWP, USGS, and EPA.

PRELIMINARY RESULTS/FUTURE RESEARCH:

- (1) % survival decreased for fathead minnows @ 30days in 625 mg NaHCO_3/L .
- (2) The 96 – hr LC50 for fathead minnow fry was 5,526 mg/l.
- (3) *Investigating other fish species for water toxicity tests.*
- (4) *Investigating testing acute toxicity of stream water using wild fish in cages.*



Historical Monitoring

- ◆ Historical aquatic monitoring will be used for comparison data by the USGS and research projects.

Some historical data includes:

- DEQ aquatic monitoring for TMDLs.
- BLM aquatic and amphibian surveys.
- USGS & EPA aquatic monitoring.
- MT FWP & WYFG monitoring.



ATG NEEDS/TASKS



- ◆ **\$ 203,944** for FY 2006 monitoring final report.
- ◆ **\$ 69,058** for fish assemblage research project.
- ◆ **\$ 168,000** for amphibian/reptile research project.
- ◆ **Future funding for monitoring in 2007.**
- ◆ The ATG needs to update plan to include sampling protocol and budget changes.