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**NC Resource Management and Enhancement (Cheoah) Fund Board Members and  
Advisors  
Meeting Notes  
05 November 2008  
1000 - 1330**

**Attendees:**

Rhiannon Payne	USACE	304.399.5253
Chris Goudreau	NCWRC	
Michael Bolt	E&CI	828.497.2715
T.R. Russ	NCWRC	828.659.3324
Steve Fraley	NCWRC	828.627.8414
Ryan McManamay	VT	540.808.8695
Jason Farmer	USFS	828.479.6431
Steve Reed	NCDWR	919.715.5424
Dick Eyestone	Friends of Lake Santeetlah	828.669.1221
Jane Hargreaves	Specialist	828.298.2426
Mark Cantrell	USFWS	828.258.3939 x227
Marshall Olson	via teleconference call-in	
Andy Dolloff	USFS-SRS-VT	540.231.4864

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**Welcome and Introductions**

**Background** – Cheoah fund created as an item in the settlement agreement as mitigation to offset some unavoidable impacts from continued hydropower generation

- Incorporated into FERC license and required to have annual 4<sup>th</sup> quarter meetings
- Fund will be \$25k contribution (adjusted with inflation from 2005 dollars to present) with the last 4 years up front
- Fiduciary report – fund has finally become interest bearing and has gained ~\$11k in interest
- Initial deposit took place in May 2007
- Fund balance 1/1/08 was \$159,306.04 – for more info see attached draft interim fiduciary report
- Received first invoice from VT and will soon receive invoice on mussel propagation of ~\$10k
  - Q: what is the cost of the annual VT study?
  - A: approx \$24k but not all is paid by Cheoah fund
- Edits to be made to the fiduciary fund will be addition of the rest of the invoices for the year (to the end of December) so there will be a full report for the calendar year (the report needs to be included in the June 09 progress report to Alcoa for FERC)
- Motion to table finalization of the fiduciary report until the end of the year

**Status of Projects**

1. Restoration ecology of fishes, VT

McManamay

**Ryan MacManamay, VT** with powerpoint presentation

Main problem – system starved of sediment and gravel trapped by dam

Fixes:

- Flow is restored – more peaks and higher baseflow – mean annual discharge is actually high due to hurricanes, test flows and spill events (2002 – 2004)
- Assessment: Surveying combined approach (wading/shocking and snorkeling) to discern species/habitat association to find the best places to stock specific species
- Snorkeling catches the water column species but not darter species so there was some overlap with electrofishing
- Downstream of dam there is homogenization of fish species, “cosmopolitan species,” lower abundance of gravel-dependent species
- Fluvial-dependent species (i.e. tangerine darters) recover with distance from the dam but hopefully with gravel inputs to the system these species will move up closer to the dam
- Several species found in tribs could recolonize (i.e. walleye, longnose dace, blacknose dace)
- VT was cautioned to not attribute new species found recently to dramatically improved dispersal mechanisms
- Trend with tuckasegee darter is decline – too early to know the mechanism of decline
- Tangerine darter trend is decline but not well sampled due to depth and sampling efficiency, also this reach has been overfished for area aquaria
- Greenfin trend – stable but fluctuating in abundance over time
- Gravel supplementation
  - 100yd<sup>3</sup> deposited on biannual basis
  - Monitoring: migration on annual discharge, stability of redeposited material, biotic effects of gravel sedimentation
  - 4 sites (40mm and 10mm average size)
  - Surveying contour of gravel piles and comparison with flows to determine rate of launching
  - Gravel migration over time measured by placement of monuments and monitoring migration into the channel
  - Rate of gravel launching is greatest at high gradient and least roughness – dispersal is also greatest at least roughness
  - Gravel sites 3 and 4 had movement at  $Q_c > 1000\text{cfs}$
  - Gravel site 1 had movement at  $Q_c \leq 1000\text{cfs}$
  - Spawning enhancement success – mound builders (keystone species) are important for community recovery
  - Chubs have been found to be incorporating the introduced material into their nests with the native material
  - Diet analysis of smallmouth bass will probably not be continued because the results were not informative
  - Notable: only one live crayfish specimen has been found
  - Conclusions – need further study for diversity and abundance, gravel migration can help determine sediment budgets/critical discharges, and gravel supplementation has had positive impact on river chub spawning habitat
  - Further discussion:

- Nest builders are redistributing gravel material not only by moving it to build nests but also depositing it in areas where it's more likely to be remobilized in high flow events
- 2 goals for gravel addition: 1. meet needs of spawning fish 2. improve mussel habitat
- Could change gravel additions to a heterogeneous mix
- Reminders from Alcoa: need gravel data by mid-January 2009, draft report to be completed in February, comments due on draft in February

## 2. Gravel augmentation

### **Steve Reed/Mark Cantrell brief discussion and gravel samples**

The gravel additions were made through a contract with ClearBlue Grading.

## 3. Spiraea virginiana Monitoring and Management

Hargraeves

### **Jane Hargraeves, presentation with maps**

#### Invasive Species

- No chemical controls will be implemented until the EA is completed
- 9 miles of river were surveyed on foot – 12 species of invasives were found and populations marked with GPS for density and seed-bearing populations
- Hand controls have been implemented for kudzu
- All controls are implemented by trained volunteers
- Conclusion – the populations are controllable
- Prioritization:
  - Protect the endangered species
  - Remove seed-bearing populations, esp. oriental bittersweet, mimosa, Chinese potato, kudzu
  - Eradicate distributed invasive species
- Even though controls on Forest Service lands cannot yet be implemented, work can be undertaken on private lands owned by Alcoa
- Essentially \$6,600 funding available to begin implementing controls now
- Meeting will take place soon with NCDOT to discuss road mowing practices that affect the Virginia spiraea populations and also allow for spreading of invasive exotics

## 4. Appalachian elktoe genetics, NCWRC

Fraley

### **Steve Fraley, NCWRC with handout – genetic tree**

#### Appalachian Elktoe Genetics

- Hypothesis: there are genetic differences in this population from other populations in nearby watersheds that may isolate it
- Ultimate goal – take genetic samples from all populations and relate them to one another
- Is this population similar enough that the population can be augmented through translocation and propagation with nearby populations?
- Cheoah population success is gaining importance as other nearby populations decline – one nearby pop. has declined ~90% in the past four years

## 5. Identify larval fishes

Wallus

### Identify Larval Fishes

New contractor Bob Wallus has been contacted to identify larval fishes collected through monitoring activities. NCDENR (Fiduciary) has negotiated a contract and is processing paperwork currently.

## 6. Captive propagation fish and mussels, NCWRC

Russ

### **Steve Fraley and T.R. Russ, NCWRC** site visit to hatchery

Fish and mussel propagation and holding facilities have been added at the Marion Fish Hatchery. The group toured the new facilities. The design includes a semi-closed loop water system, with isolated banks of tanks for mussels and fishes. Currently houses several endangered species. The group looked at wavy-rayed lampmussels destined for Cheoah River. The group looked at some spotfin chubs that were obtained from Conservation Fisheries Inc (CFI) for grow out – these fish have demonstrated good growth at lower densities, and will be liberated at the Cheoah River sometime next June.

## **2009 Fund Board Priorities**

- Next gravel addition would be 2010 if considered appropriate
  - LIDAR data could be used to determine where benefits of additional inputs could be maximized
  - Priority – if we want gravel by 2010, contracting must be initiated in 2009
- Gravel discussion: this last round of gravel was expensive because of travel distance/time, type, sorting and washing. Need to give the next contract more time for local contractors to bid the contract rather than the supplier in Alabama. . . avoid the time crunch for better pricing. Non-native gravel will not be necessary next time but was helpful as first round for tracking downstream migration. Future source of gravel could be dredging in the lakes.
- Q: What extra funding is required for invasive plant control?
  - A: No additional funds required other than what has already been allocated. Other agencies have also contributed funding.
- No other new priorities.

## **New Proposals**

Future new proposals (continue mussel work that is already underway) will be due by mid-December

## **Future Meetings**

- Next meeting will be a teleconference for “fiduciary stuff” scheduled for first week of January 2009 – **1pm, 5 January 2008**
- New proposals due by mid-December
- New chair will be coming onboard – set rotation for chairmanship – Chris is the lucky dude to take the reins
- Board needs to compile data into repository
  - Combine with Tallassee fund effort to do the same work for lower shared cost?
  - Discuss with smaller schools such as UNC Asheville – Dick Eyestone will assist.