



# **Fisheries Resources in White Pine County**

**June 22, 2013 Update  
to the  
Nevada Board of Wildlife  
Commissioners**

**Jon C. Sjöberg  
Chief of Fisheries**

# Comins Lake

Located 7 miles south of Ely. Built in 1953 as storage reservoir for 3-C Ranch. 410 surface acres at capacity. Max depth of 14 feet with an average depth of 4-6 feet. Fed by Steptoe Creek.

Northern pike introduced 1970-1973 to control a nuisance population of Utah chub. After exhausting all food resources (chub, trout, bass), pike population crashes in mid-1980's.

Reservoir chemically treated in 1989. Trout restocked in the fall of 1995.

Purchased by NDOW in 1999 – SVWMA. From the mid 1990's through mid 2000's – was a trophy trout and bass fishery. In 2004 – 4<sup>th</sup> most visited fishery in the state.

Northern pike illegally introduced in 1999. Very successful spawn in 2001 and every year since. Heavy predation upon trout and bass documented every year since 2002.

Trout stocking terminated in 2007.

**Since pike first spawned in 2001, it took less than 10 years to transform the fishery from this...**







To this...

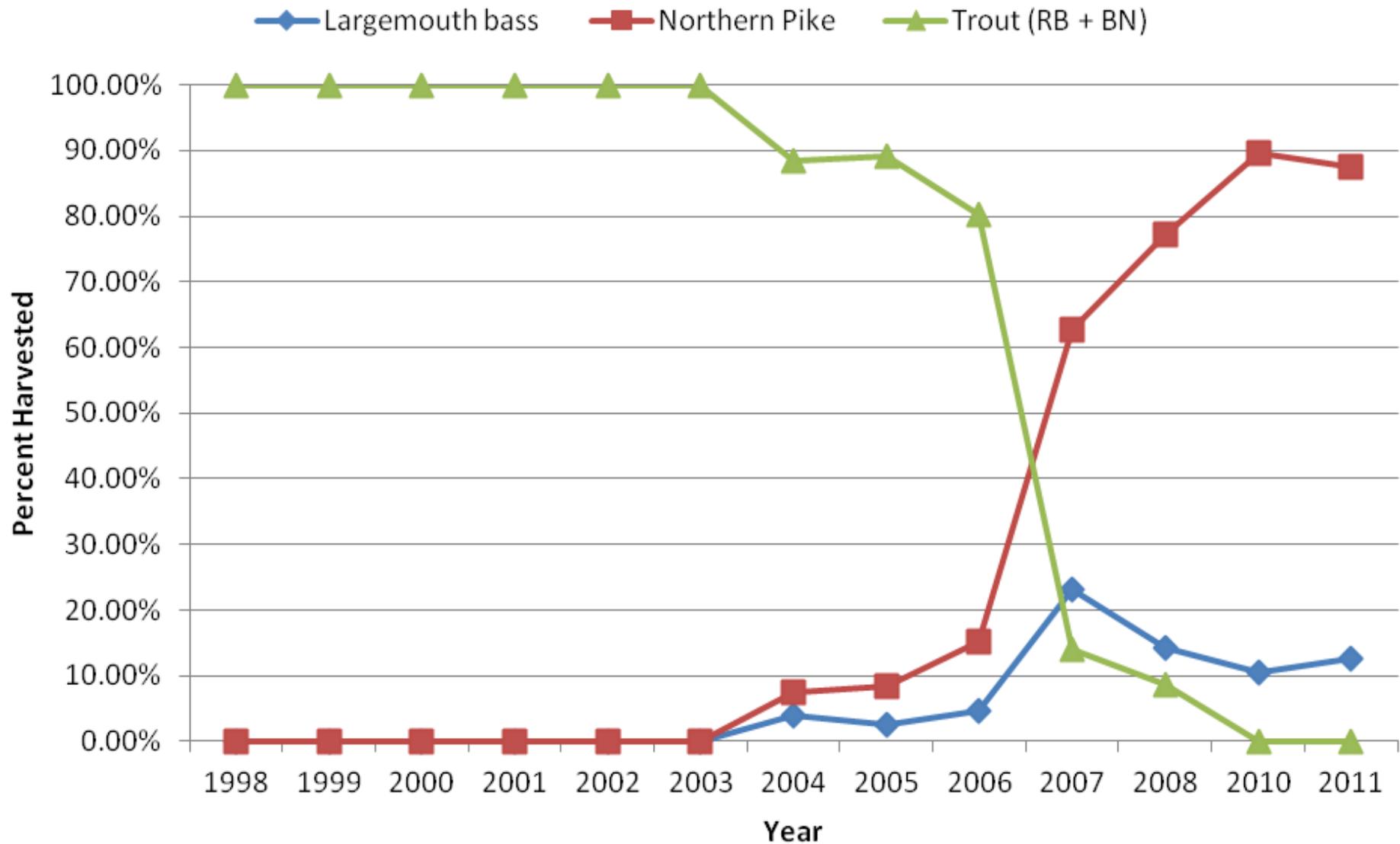






# Comins Lake

## % Composition of Fish Harvested by Year



## Current Status of the Reservoir

**Electroshocking surveys document the effective elimination of trout by fall, 2008.**

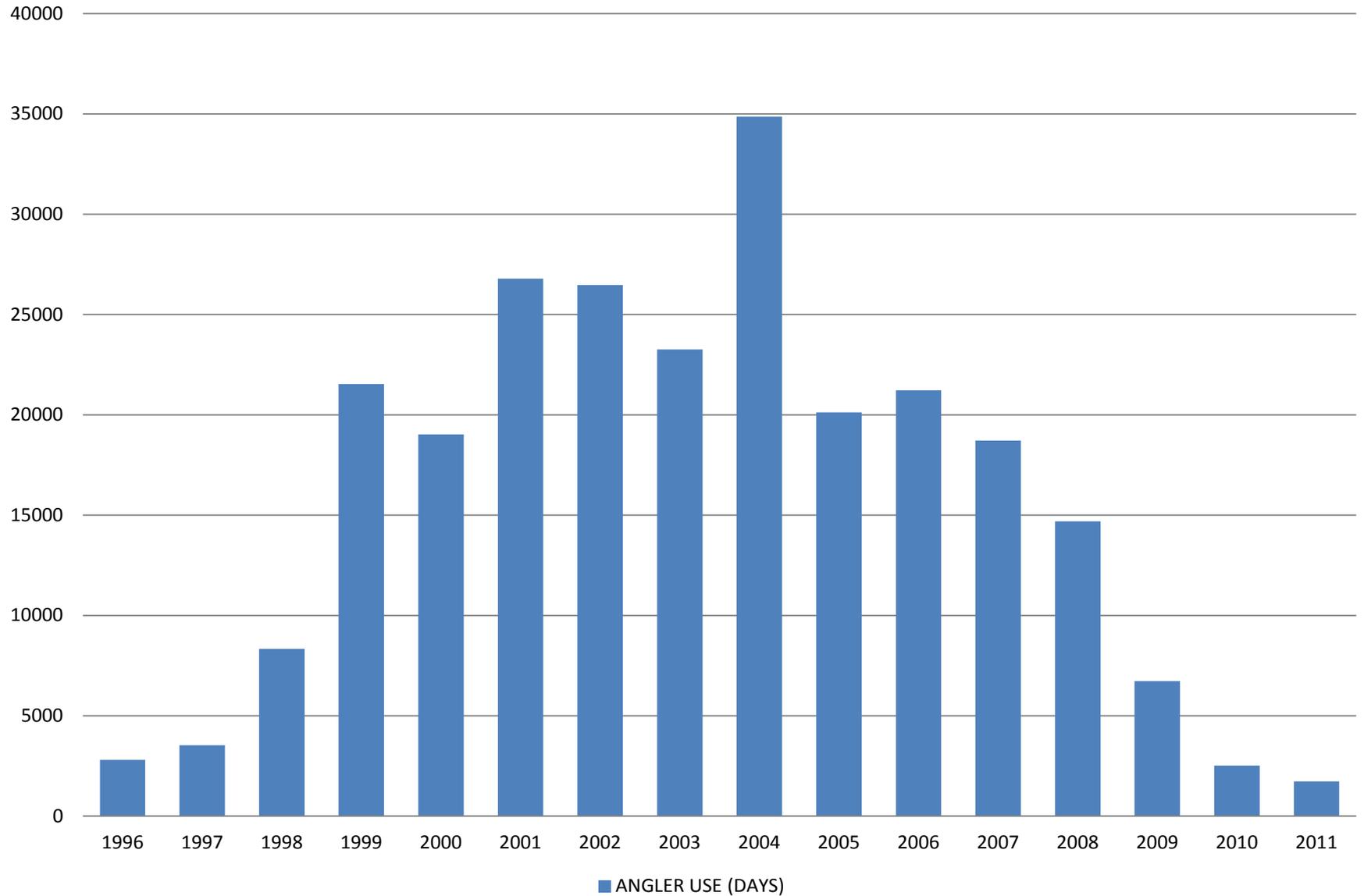
**Largemouth bass reproduction effectively eliminated by fall, 2009.**

**After exhausting all available food sources, the pike population has turned to invertebrates and cannibalism...**

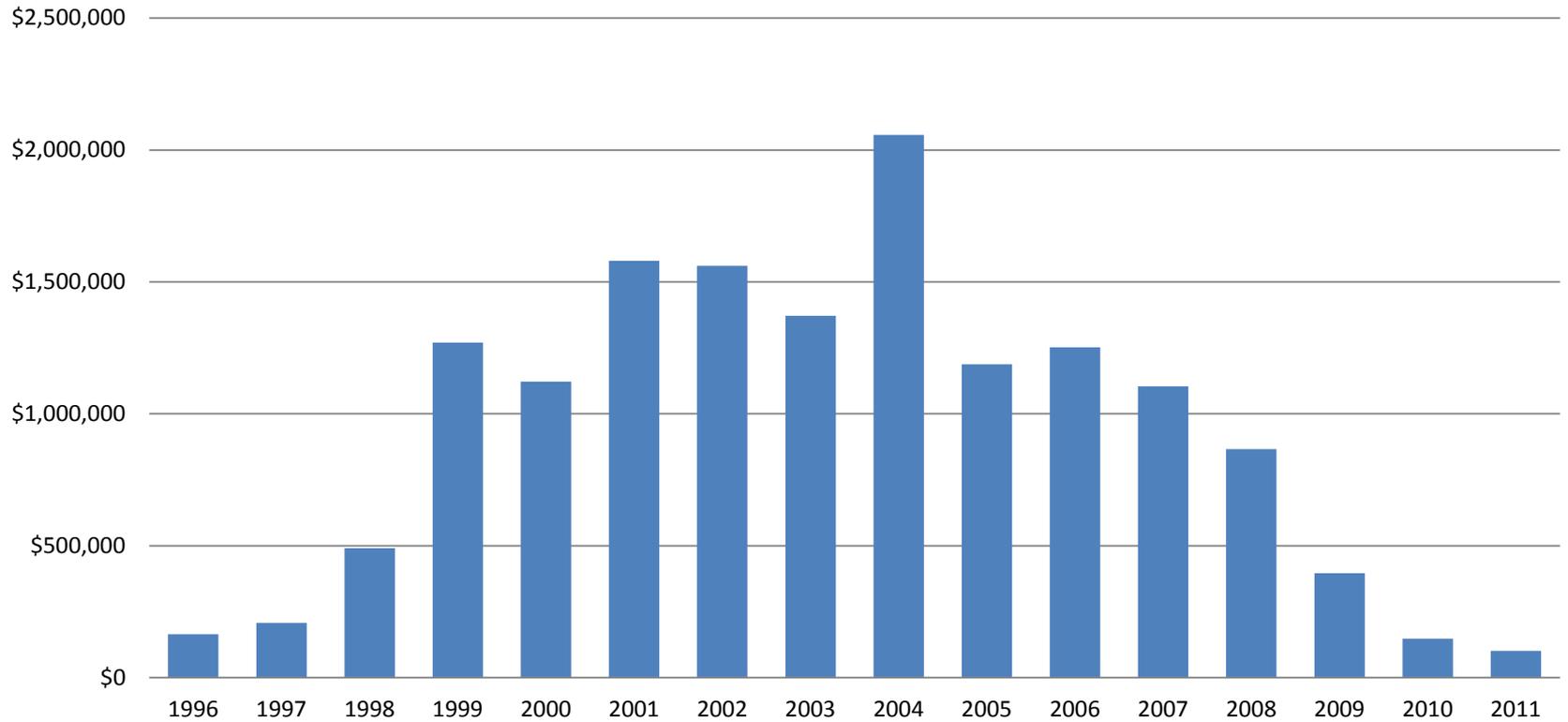
**Recent data shows the pike population has crashed once again.**



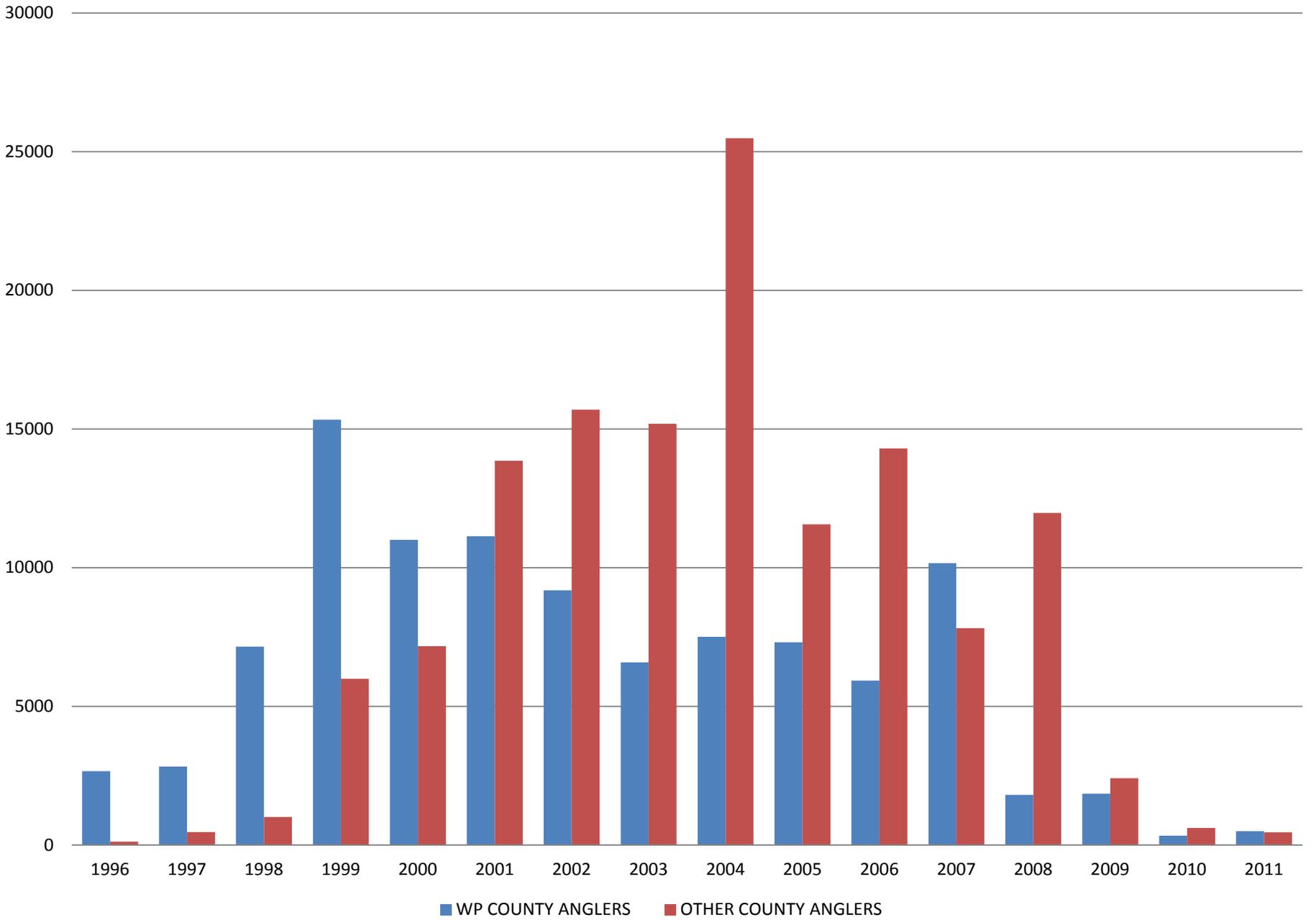
# ANGLER USE (DAYS)



# ANGLER EXPENDITURES



■ ANGLER EXPENDITURES



# Comins Lake and Mercury Issues

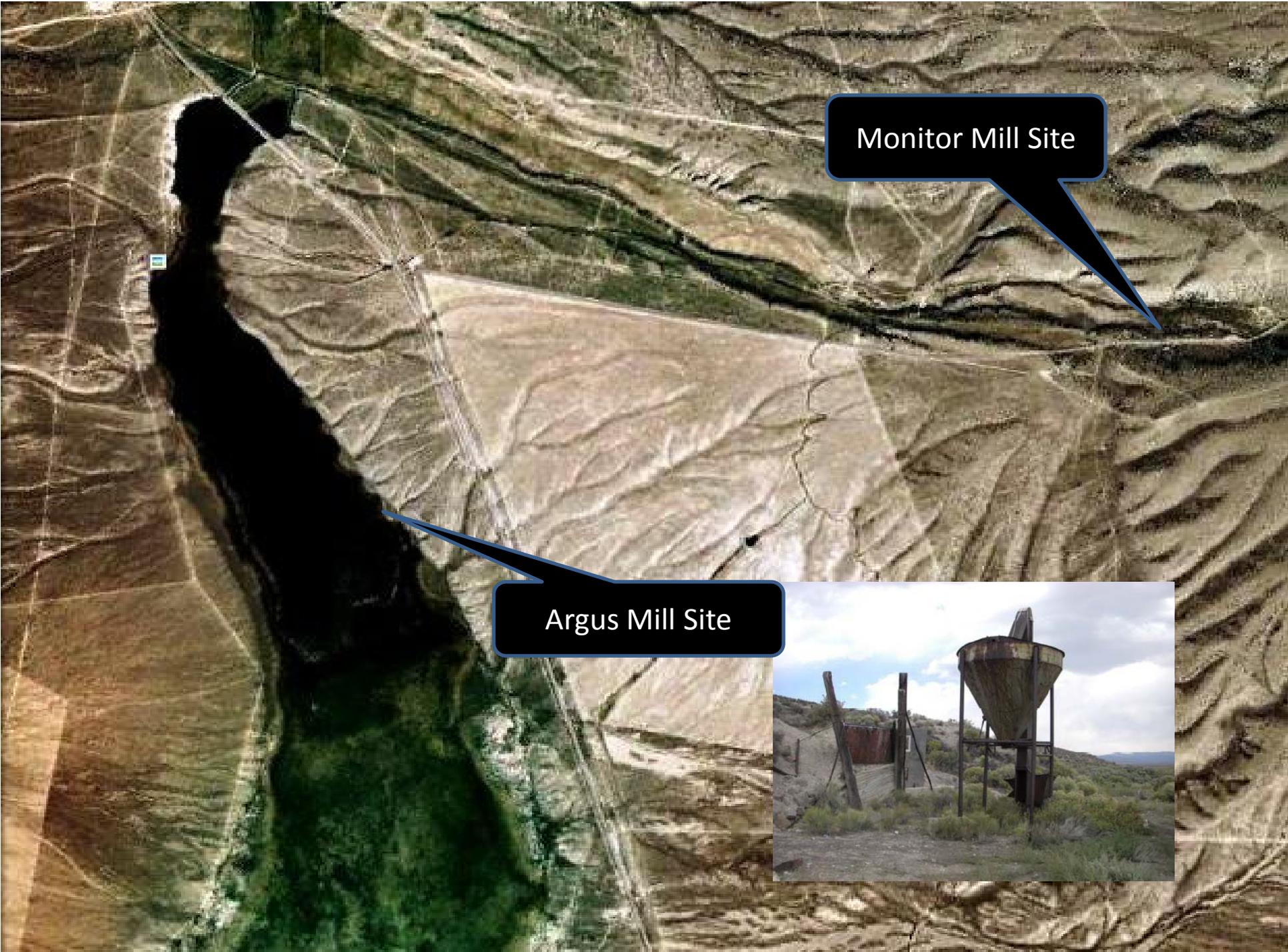
**2006 – Routine sampling found elevated methylmercury levels in fish inhabiting Comins Lake**

- Northern Pike – 1.20 ppm
- Largemouth Bass – 1.25 ppm
- Rainbow Trout – 0.85 ppm

**A health advisory was subsequently issued for the reservoir recommending no consumption of northern pike and largemouth bass and 1 rainbow trout per month**

- Developed by Nevada State Health Division in cooperation with NDOW and NDEP
- Particularly applicable to pregnant women, nursing mothers and children
- Elevated mercury levels in fish tissue led to subsequent follow-up investigations by EPA and NDEP

**Preliminary soil sampling in 2007 by NDEP and the EPA identified two possible sources of mercury.**



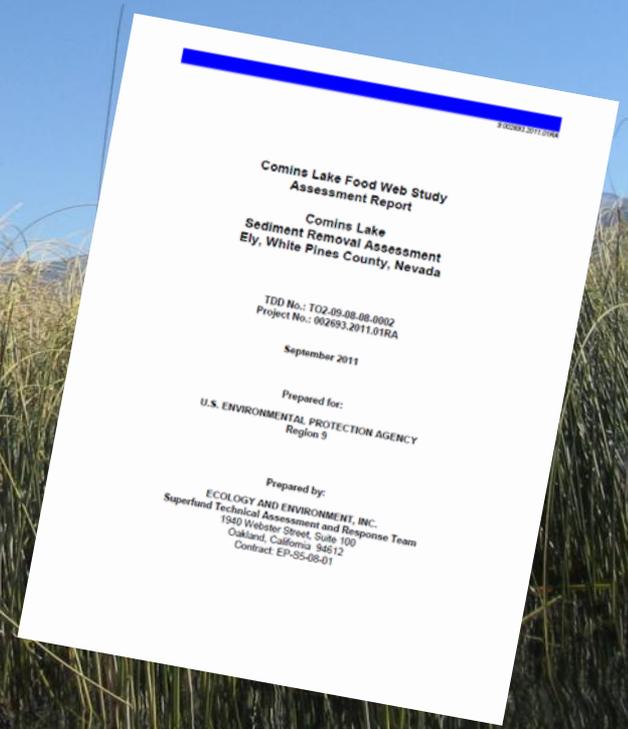
Monitor Mill Site

Argus Mill Site

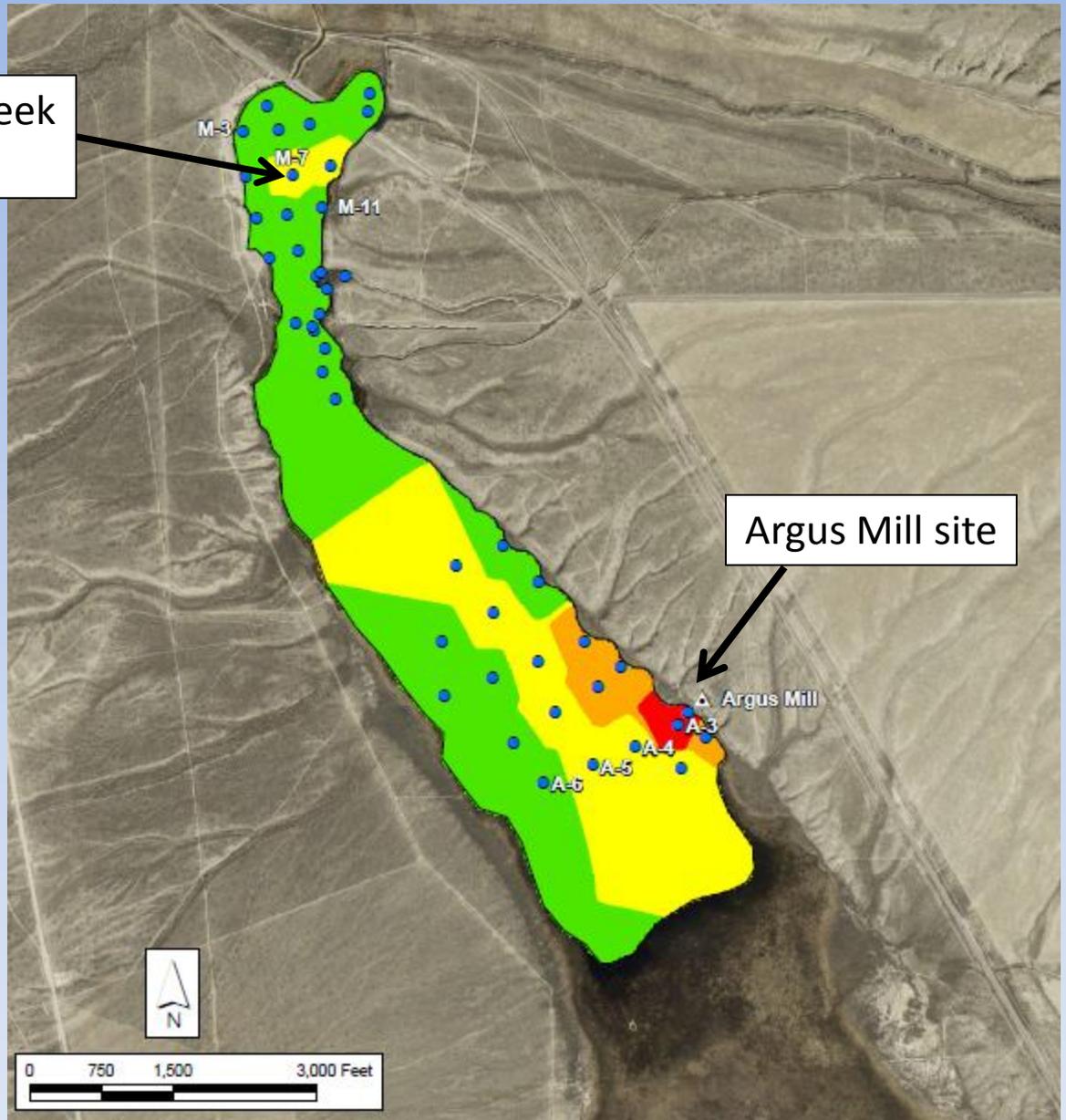


Additional soil and reservoir substrate sampling was conducted by NDEP/ EPA in 2008 and a comprehensive study was initiated examining soil and substrates, vegetation, macroinvertebrates, plankton, water, and fish to determine where and how the methylation is occurring in Comins Lake, and options for mercury remediation.

The study concluded in August, 2010 and a report was released in September 2011



Inflow from Steptoe Creek  
(Monitor Mill site)



Argus Mill site

**LEGEND**

● Sediment sample location

Concentration in nanograms per gram

Green	11.6 - 999
Yellow	1,000* - 9,999
Orange	10,000 - 99,999
Red	100,000 - 509,000

\* = Potential action level

# EPA study recommendations

- Options for remediation
  - Removal (excavation) of sediments
  - Capping contaminated soils (Argus mill site)
  - Reduce nutrient inputs
  - Dike (isolate) area around the Argus Mill
  - Divert Steptoe Creek around the Monitor Mill site
  - Reduce/remove aquatic vegetation
  - Deepen areas of the south lake basin (to reduce future vegetation growth)

## Next Steps / Future Strategy

**Effective remediation following EPA study recommendations will be difficult:**

- Physical remediation *in Comins Lake* (e.g. sediment removal, capping, diking, deepening) will be very expensive.
- EPA [superfund site] funding is limited or nonexistent.
- Probability of success is uncertain (success = reducing methylmercury levels to a point where health advisories would not be needed).

**NDOW had an independent assessment of the EPA report done by Dr. Mae Gustin/UNR**

- This generally supported the EPA conclusions and recommendations
- Strategies to minimize disturbance of existing sediments and selectively control vegetation would help reduce future mercury methylation

## Next Steps / Future Strategy

### **Potential near-term options include:**

- Evaluate bypass of Monitor Mill contamination area**
- Options to remove/control aquatic vegetation**
- NDOW is supportive of actions to address large-scale remediation, however...**
- Community support and external grant/funding sources will be needed to implement any substantive remediation strategies**

## Next Steps / Future Strategy

### Comins Lake Dam:

- Because of the NDOT requirement to move/realign US93, current cost estimates are in the range of ~\$14M
- Increased storage from raising the dam 8-10 feet would increase available fish habitat but also would increase exposure to contaminated sediments (Argosy Mill site)
- The current water budget for Steptoe WMA would only allow filling in wet years

### Comins Lake Fishery Restoration:

- This will proceed independent of contamination remediation
- 2014 project planning, NEPA compliance
- 2015 renovation and sport fishery restoration
- Pursuing boat launch facilities improvements concurrent with fishery restoration
- Prudent approach is to treat Bassett Lake simultaneous with Comins Lake

# Bassett Lake

Located 5 miles northwest of McGill. 77 surface acres at capacity. Constructed in 1942 by Kennecott Copper Co.

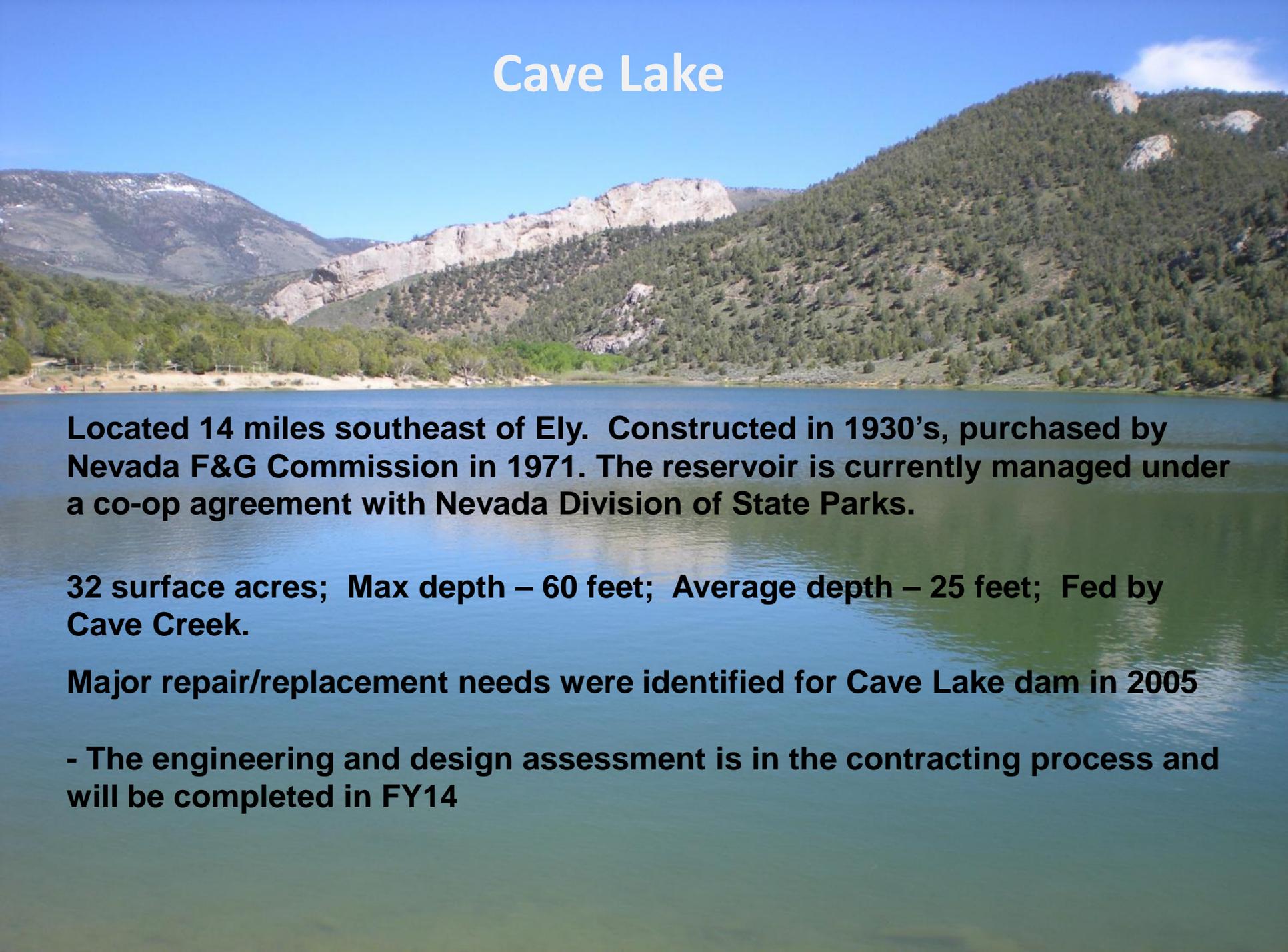
Max depth – 9 feet; Average depth – 4 feet; Very susceptible to low water / drought conditions.

Currently contains northern pike, carp, and LMB. Once a popular fishery, it now represents a pike population after a crash.

Bassett was probably the source of pike for the illegal introduction into Comins Lake.

Eradication here is crucial to prevent future illegal introductions. Bassett has excellent warmwater fishery potential.

# Cave Lake

A scenic view of Cave Lake, a reservoir surrounded by forested mountains under a clear blue sky. The lake is in the foreground, reflecting the sky and the surrounding landscape. The mountains in the background are covered in dense green trees and have some rocky outcrops. The sky is a clear, bright blue with a few wispy clouds in the upper right corner.

**Located 14 miles southeast of Ely. Constructed in 1930's, purchased by Nevada F&G Commission in 1971. The reservoir is currently managed under a co-op agreement with Nevada Division of State Parks.**

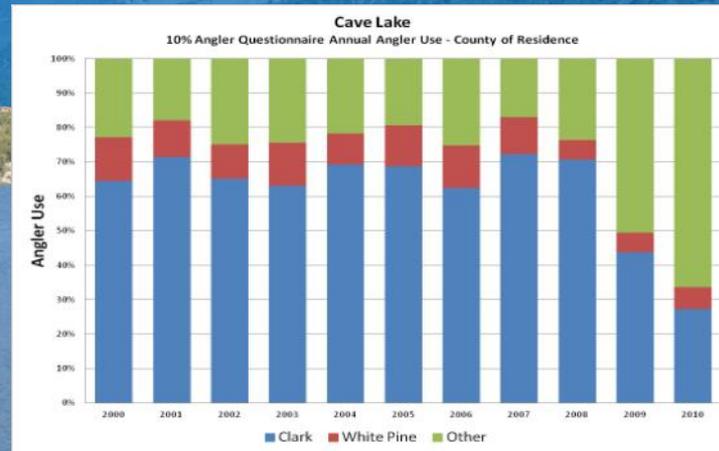
**32 surface acres; Max depth – 60 feet; Average depth – 25 feet; Fed by Cave Creek.**

**Major repair/replacement needs were identified for Cave Lake dam in 2005**

**- The engineering and design assessment is in the contracting process and will be completed in FY14**

# Cave Lake

Cave Lake is currently managed as a put-and-take rainbow trout fishery and averages more than 20,000 angler days / year.  
- Much like Comins Lake in the past, Cave Lake attracts a significant number of out-of-area anglers to White Pine County



The Reservoir also supports a reproducing brown trout fishery and produced the current state record brown trout in 1984 at 27 lb. 5 oz.

NDOW is currently assessing the feasibility of introducing an additional game fish species in the reservoir.

**The End**



Cave Lake brown trout.