Conchas Dam and Lake

US Army Corps of Engineers
Operations Division
Albuquerque District Office

Public Meeting
20 April 2013

US Army Corps of Engineers
BUILDING STRONG®

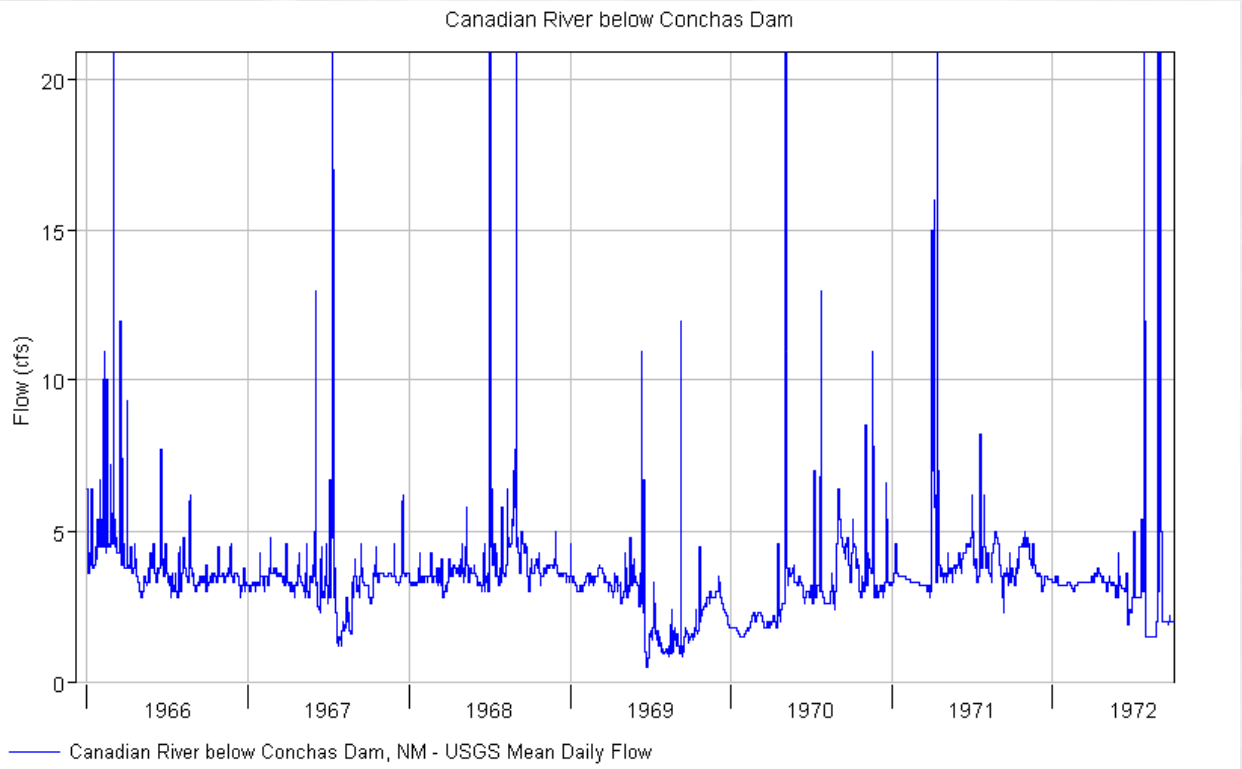
Stilling Basin Dewatering, Sediment Removal, and Inspection Project

- Last inspected in 1974
- Purpose was inspect basin, conduits, and gates
- All features are in safe operable condition
- Following the inspection, a bid option was exercised to make minor repairs around gates to reduce seepage

Belzona Repairs

Work to Reduce Seepage

- Seepage is common to all dams (soil, concrete, gates)
- Repairs made to 3 of 6 sets of gates (emergency & service)
- Difficulty setting bulkhead gate for other three conduits
- Work done reduced seepage from 8.8 cfs to 6.5 cfs (26%)
- Evaporation is about 5 times greater than seepage



What is minimum possible seepage from the Dam?

- **If repairs were made to remaining 3 sets of gates, perhaps seepage could be further reduced to 4.2 cfs**
- **Matches D/S gage from 1960s to 1970s (min possible)**
- **What's the cost and how much water is saved?**

What's the cost of saving an additional 2.3 cfs?

- **If repairs were made to remaining 3 sets of gates, perhaps seepage could be further reduced from 6.5 cfs to 4.2 cfs**
- **Max Cost: ~ $1.7M**
  - **Underwater camera**
  - **Divers to help plan work**
  - **Set bulkhead gates (crane)**
  - **Dewater stilling basin**
  - **Make repairs to 3 service and 3 emergency gates**
  - ***Dredging contract to remove sediment***
- **Min Cost: ~$300K**
  - **All the above costs for repairs without the dredging**
  - **Extended need for divers and other efforts to remove obstructions**

Is the cost justifiable for the amount of water saved?

- Total estimated cost to perhaps save an additional 2.3 cfs ranges from $300K to $1.7M
- Saving an additional 2.3 cfs would only provide Big Mesa with an additional 3 to 6 months of water
- All funding must be budgeted for 3 years in advance
- Work to further reduce seepage is not dam safety related
- It will be difficult to compete for limited funds against other USACE Projects with dam safety needs
- USACE will do what it can to determine what is blocking the bulkhead gates then reaccess possible options

Clean Water Act (Section 404) Permits

- 404 Permits have been issued to NMSP for Marina & North Ramp work
- Both Permits are valid until 2017
- Essentially a 404 Permit is required when placing fill or otherwise disturbing earth material below the high water mark (elev 4201.0 ft)

Other Required Approvals

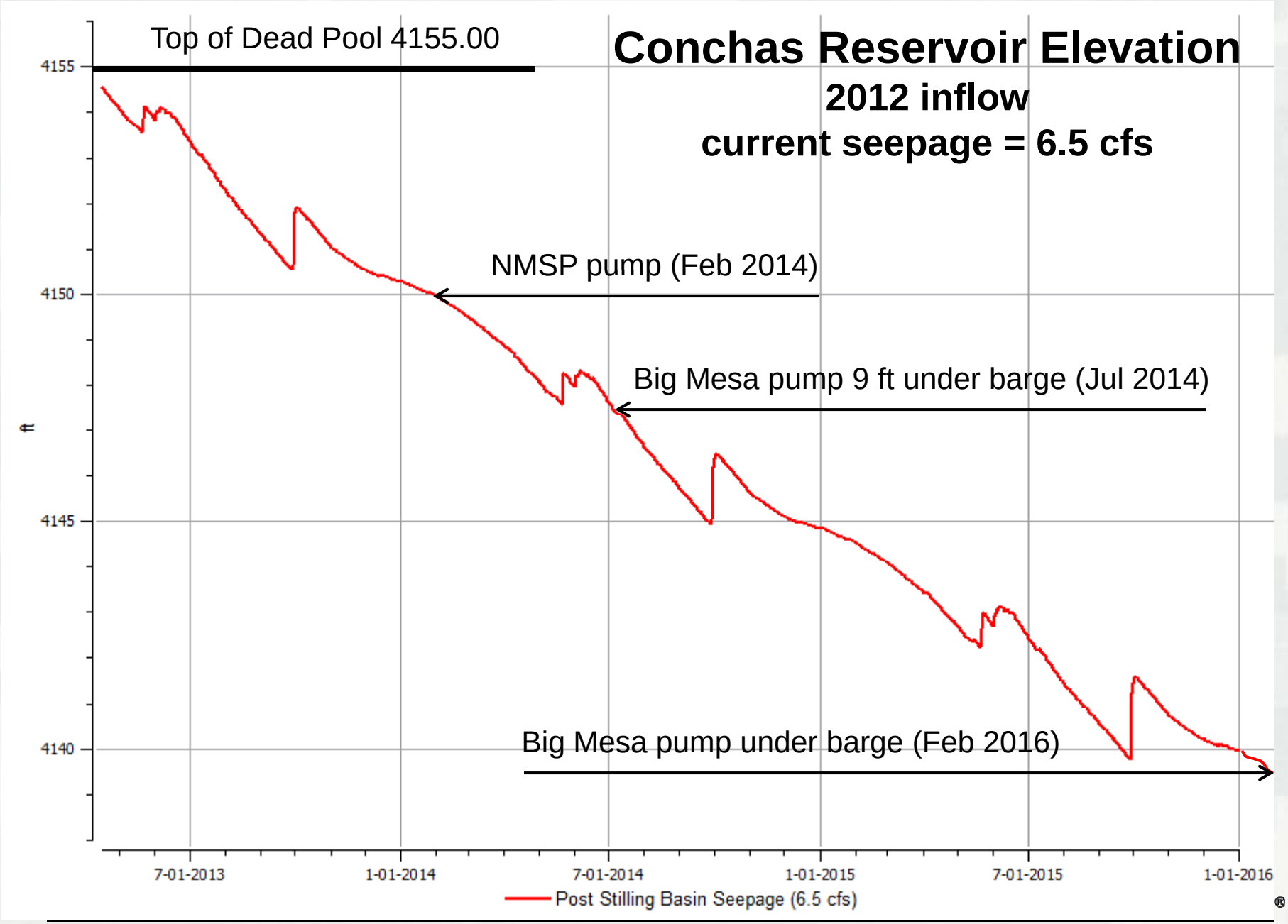
- New Mexico State Park Outgrant Lease on USACE Fee Land
  - Lease Agreement Compliance
  - NEPA (National Environmental Policy Act) Compliance
    - Check for impacts to natural and cultural resources
    - Check for any environmental hazard concerns
- Flowage Easement Private Land (4218.0 ft)
  - Approval from USACE Operations Division
  - USACE has right to flood
  - No habitable structures
  - Any constructed features must not impact reservoir operations
  - 404 Permit required for disturbing soil below 4201.0 ft

Rank	Calendar Year	Computed Inflow (acre-feet)
1	2012	11,225
2	2003	17,120
3	2011	21,839
4	2009	26,676
5	2002	26,872
6	1974	29,493
7	1964	30,251
8	2008	37,480
9	1975	37,696
10	1976	42,384

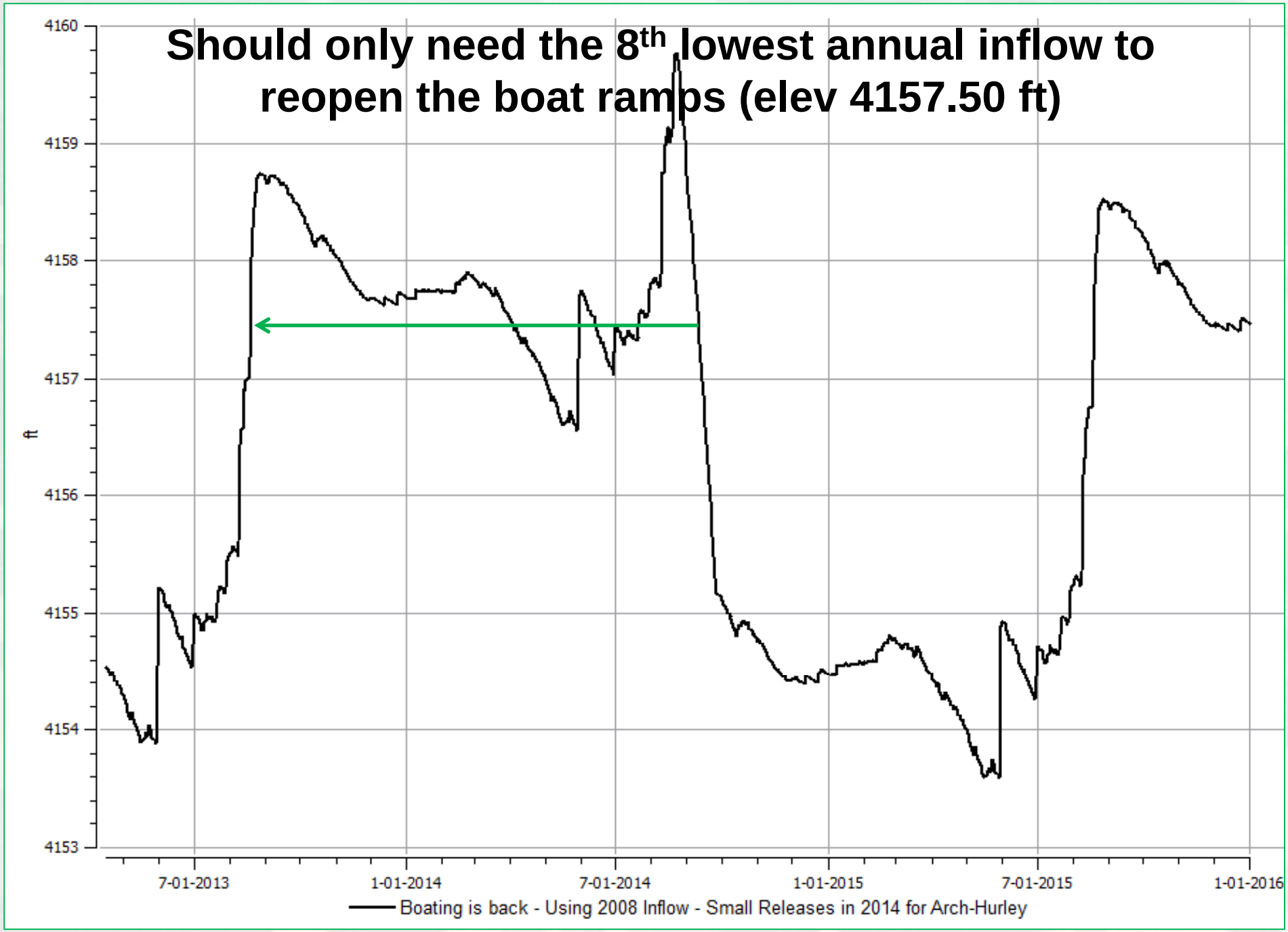
All of Eastern NM is experiencing a severe drought

This is especially evident when looking at the historical inflows to Conchas Lake

6 of the 10 lowest inflows since 1940 (73 yrs) have occurred in the last 11 yrs


Conchas Reservoir Elevation
2012 inflow
current seepage = 6.5 cfs
Top of Dead Pool 4155.00
NMSP pump (Feb 2014)
Big Mesa pump 9 ft under barge (Jul 2014)
Big Mesa pump under barge (Feb 2016)
4155
4150
4145
4140
ft
7-01-2013
1-01-2014
7-01-2014
1-01-2015
7-01-2015
1-01-2016
Post Stilling Basin Seepage (6.5 cfs)

Should only need the 8th lowest annual inflow to reopen the boat ramps (elev 4157.50 ft)



Access and Use of Lake

- North and South Boat Ramps are closed due to low reservoir levels
- Current conditions make launching boats from the shoreline unsafe
- Public will have access to the shoreline for fishing and land based day-use recreation
- USACE will provide open access for day-use shoreline access

Status of the Southside Lodge & Adobe Bell

- **Southside Lodge. 2010 Market Analysis determined not economically viable to lease to a concessionaire even if multi-million dollar repairs were made by USACE**

- **Unless a non-profit comes forward to take over, preparations will be made to demolish the Lodge**

- **It is a high priority for USACE to lease the property**
- **Approximately $200k is needed to repair roofs, walls, and plumbing**
- **Every effort will be made to secure as much of the needed funds as possible to begin the repairs this summer/fall**

Economic Impact

- Plans for the future?

- What about advertising to attract visitors to Conchas?

US Army Corps of Engineers
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Reservoir data:

www.spa.usace.army.mil/Missions/CivilWorks/WaterControl.aspx