

# Lake Decatur Sustainability – Economics, Environment and Quality of Life

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# Brief History & Background

- ▶ Lake Decatur was built in 1920–1922
- ▶ 925 square mile watershed spanning 7 counties in east central IL, 85% of land in crop production
- ▶ The water supply for Decatur and Mt. Zion, and backup for Long Creek & Harristown
- ▶ Two water treatment plants – Decatur (21 MGD) and ADM (14 MGD)

# More Brief History & Background

- ▶ 75% of Decatur's water, and 100% of ADM's water, is used for commercial and industrial purposes
- ▶ Decatur's largest customers are ADM, Tate & Lyle, Mt. Zion, PPG, Decatur Park District, two regional hospitals, Caterpillar and Millikin University
- ▶ Even though Lake Decatur looks large – 2,850 surface acres – it is very shallow with just under 22,000 AF of water storage
- ▶ Since 1922 sediment has reduced the lake's volume by 28% – even after the lake was raised 4.5 feet in 1956 and significant areas were dredged

# 1954 Drought



# 1988 Drought



# Economic Sustainability

- ▶ The lake is a key component of Macon County's economy
- ▶ Other key components are prime farmland, enormous agribusinesses, substantial public and private infrastructure and highly productive citizens
- ▶ To economically sustain Lake Decatur, we have been working on two fronts:
  - Watershed Protection
  - Dredging

# Watershed Protection

- ▶ Decatur employed two soil conservationists in the early 1940s and helped establish the Macon Co. Soil & Water Conservation District (MCSWCD) in 1943
- ▶ Since 1987 Decatur has had an annual watershed improvement agreement with the MCSWCD
- ▶ Current agreement provides for \$40K in BMP cost share funds, 2 full and 2 part time staff, & public education (\$173,890 annually)
- ▶ Since 2006 Decatur has had an annual watershed research and education agreement with the Agricultural Watershed Institute (\$30,000 annually)
- ▶ Several federal, state and private grants have been obtained and awards received throughout the years

# Dredging

- ▶ Why? To reclaim large areas of the lake that have literally filled up with sediment
- ▶ In order to get through the next major drought, we will need all the water we can get
- ▶ Other sources of water include an emergency water well field and two former sand and gravel pits
- ▶ Dredging will result in an 18% increase in lake volume
- ▶ Sediment traps created to protect the rest of the lake
- ▶ Improved recreation opportunities such as boating, fishing and swimming
- ▶ Enhanced property values – both public and private
- ▶ Total estimated cost of \$31–37M









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TRAILERS, INC.  
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# Environmental Sustainability

- ▶ Watershed protection and dredging are also environmentally sustainable activities
- ▶ Watershed protection is an obvious activity, but what about dredging?
- ▶ 3,839 acre feet of sediment will be dredged which will also provide an identical amount of additional water supply
- ▶ Our sediment is mostly the finer silty clay and silty clay loam particles of some of the earth's best topsoil

# What can sustainably be done with 3,839 AF of sediment?


- ▶ Place on farm ground like current storage site or spread thinly over even larger areas of farm ground?
- ▶ Fill gullies & ravines on eroded farm ground?
- ▶ Mix with compost or other materials to make topsoil to sell?
- ▶ Use for large scale landscaping, construction or land reclamation projects?
- ▶ We interviewed and evaluated 4 sediment recycling/reuse joint venture teams and have shortlisted to 2 teams



# Quality of Life Sustainability

- ▶ The dredging project will not remove all of the accumulated sediment from the lake
- ▶ Erosion, although slightly reduced over the past 25 years, still slowly fills the lake with silt
- ▶ Anticipate long term increases in water use by commercial and industrial customers
- ▶ Even with dredging we currently have a 10% annual risk of not having enough water for our customers during a severe drought
- ▶ To reduce the risk to 2% in 2010 we need 10K acre feet of additional water

# Quality of Life Sustainability Includes Many Factors

- ▶ Economic – we export much needed products and services to the region and the world
  - ▶ Revenue – must be sufficient
  - ▶ Environmental – can be a difficult balance
  - ▶ Public health – don't overlook it
  - ▶ Community aesthetics – what “look” do you desire and at what cost?
  - ▶ Community pride and self worth – worth its weight in gold – cultivate it!
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# So What's the Bottom Line?

We think we're doing just about everything we can to sustain Lake Decatur from an economical, environmental and quality of life point of view.

# Need More Info?

[www.ci.decaturnil.us](http://www.ci.decaturnil.us)

[www.maconswcd.com](http://www.maconswcd.com)

[www.agwatershed.org](http://www.agwatershed.org)

