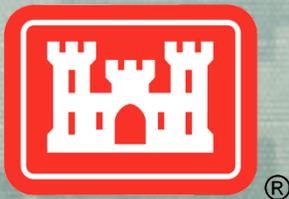


R. S. Kerr Lock 15

Bird Roosting/Damage & to Structure

Robert J. Steiner
Navigation System Operations Manager

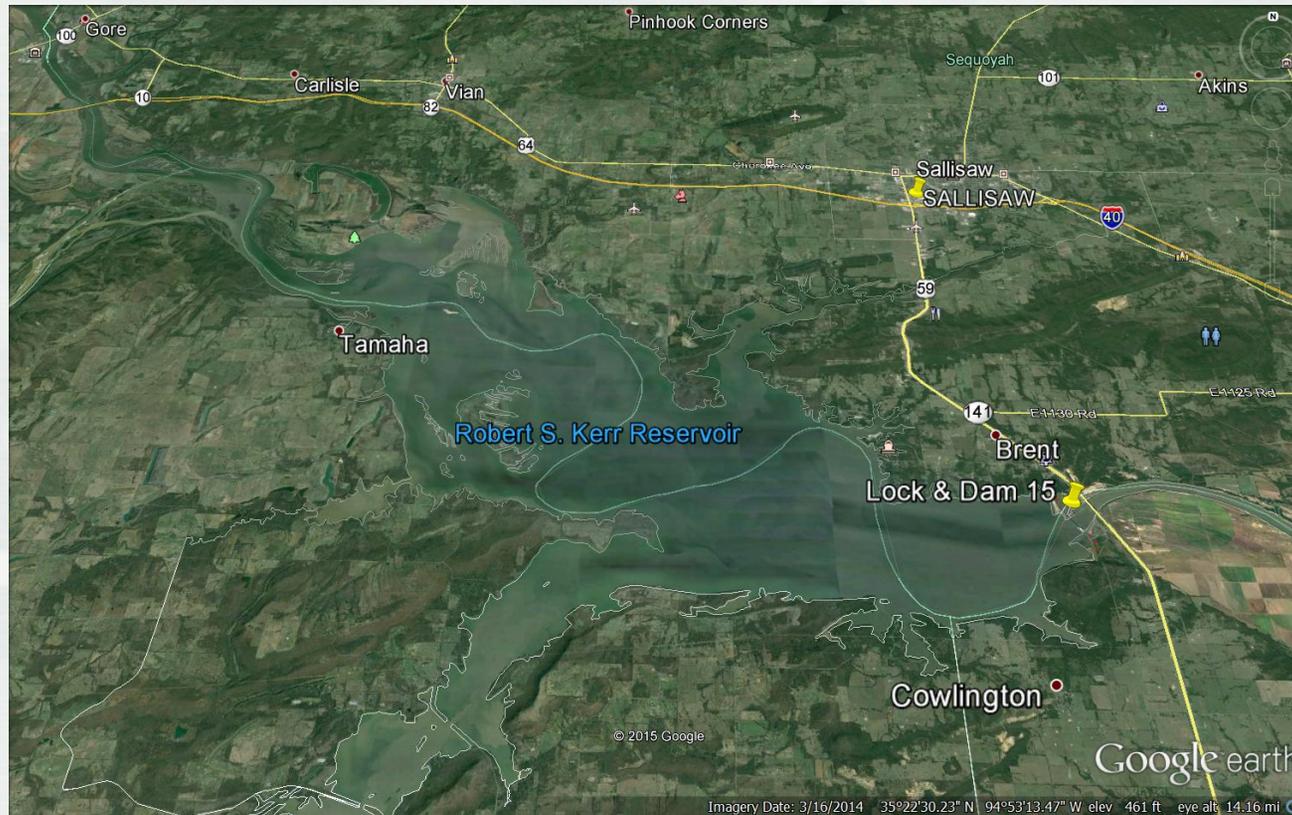
Lock Maintenance Workshop
Tulsa, OK
10-12 February 2015



US Army Corps of Engineers
BUILDING STRONG®



Mile 336.2 on Arkansas River



BUILDING STRONG®

The Culprits

**Double Crested
Cormorant**



Ring Billed Gulls



Double Crested Cormorant and Ring Billed Gull

- **Placed on protected species list in 1918**
- **Move in October and stay through April**
- **Approximately 5-6 K Cormorants & 2-3K Gulls Roosting**



The Perfect Combination

- Protected Species
- 43,796 acres of pool water
- Lock
- 18 spillway gates
- Power Plant
- Ample roosting area
- Mild winter weather



The Feeding Grounds



Locations of roosting



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Spillway



Trunion Blocks



Guide Walls



Lighting Fixtures



Daily Numbers

- 5-6 K Cormorants
- 2-3 K Gulls
- Unknown pounds of bait fish consumed daily
- 5 to 10 tons of bird droppings on structures



It all adds up 2 + “



Negative effects of roosting:

- Health hazards to operators and maintenance personnel
- Annual clean up \$\$\$\$
- Damage to structures
- Damage to equipment



Health hazards

- Inhalations of bird feces as a dust
- Ammonia fumes when droppings are wet
- Slipping danger when wet
- Corrosive to equipment & structures
- Carried to undesired areas on boots & tools



Annual clean up

- Over 250 man hours
- \$ 40K labor/
Equipment
- Labor intensive



Structural damages



Equipment damage



Equipment damage



Deterrents

- Propane canons
- Electronic sounding devices
- Predator decoys
- Hotwired rails
- Spikes and Spiders
- Netting



Hot wired rails



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Spikes on rails/canopies



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Railing Deterrent



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Netting



Ideas



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