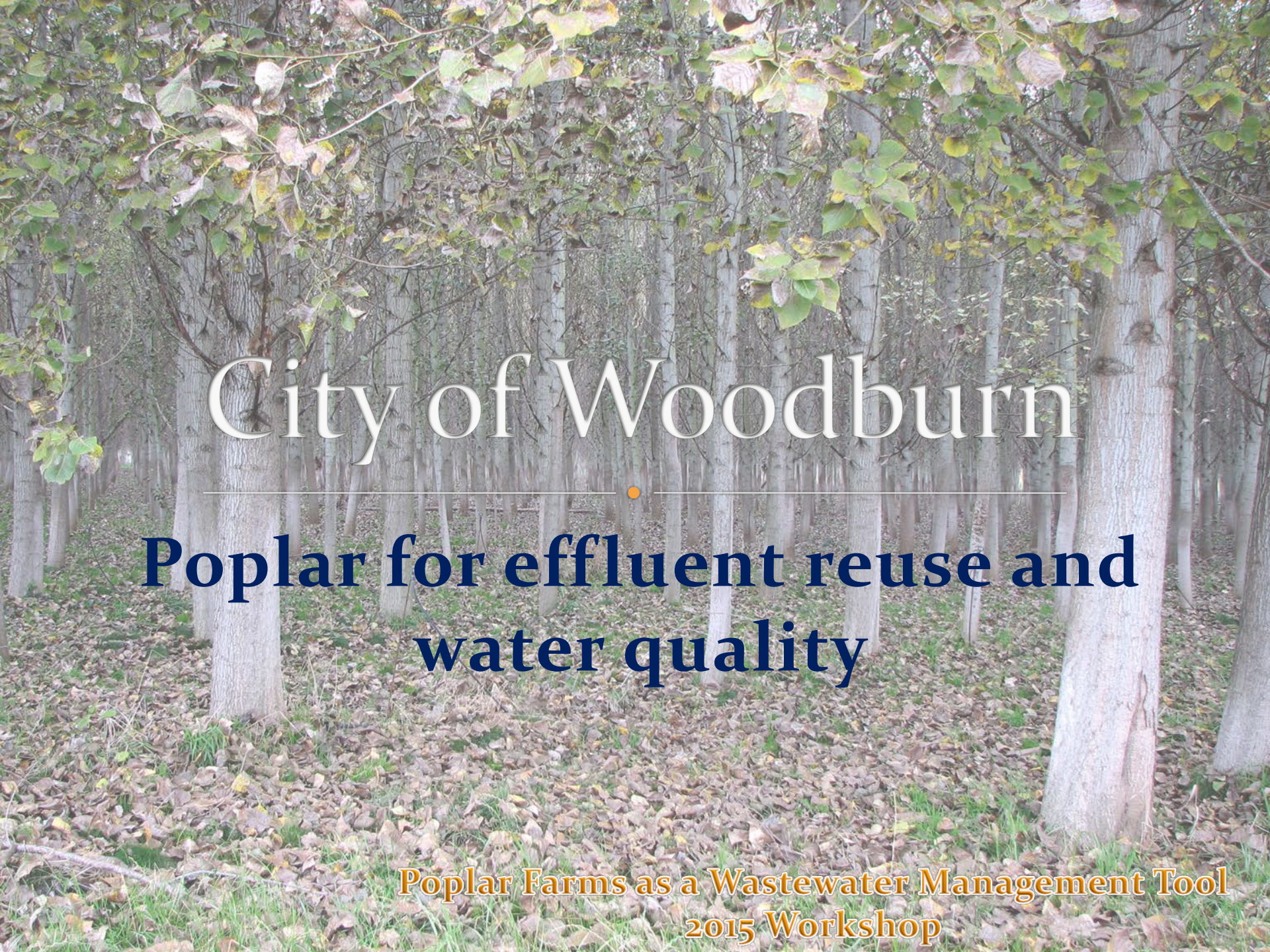


City of Woodburn

Poplar for effluent reuse and water quality

Poplar Farms as a Wastewater Management Tool
2015 Workshop

Pudding River TMDL

1993

Ammonia-Nitrogen

TSS = 10mg/L

CBOD = 10mg/L

Dissolved Oxygen = > 6.5

Temperature = ???

Beneficial Reuse

Reliable means to

- **Reduce Effluent in July and August**
- **Utilize Biosolids**

Advantages of poplar for reuse

Water usage

- Reduce flow to the receiving stream

Nutrient uptake

- Reduce ammonia to receiving stream

Agricultural crop

Trees-renewable resource

Natural Treatment system
(visual and odor barrier)

Poplar Reuse System

1999 Pre-plant

Cuttings - single bud

14 Acres Lagoon

Effluent Storage

Biosolids Storage

FSL
Facultative
Storage Lagoon

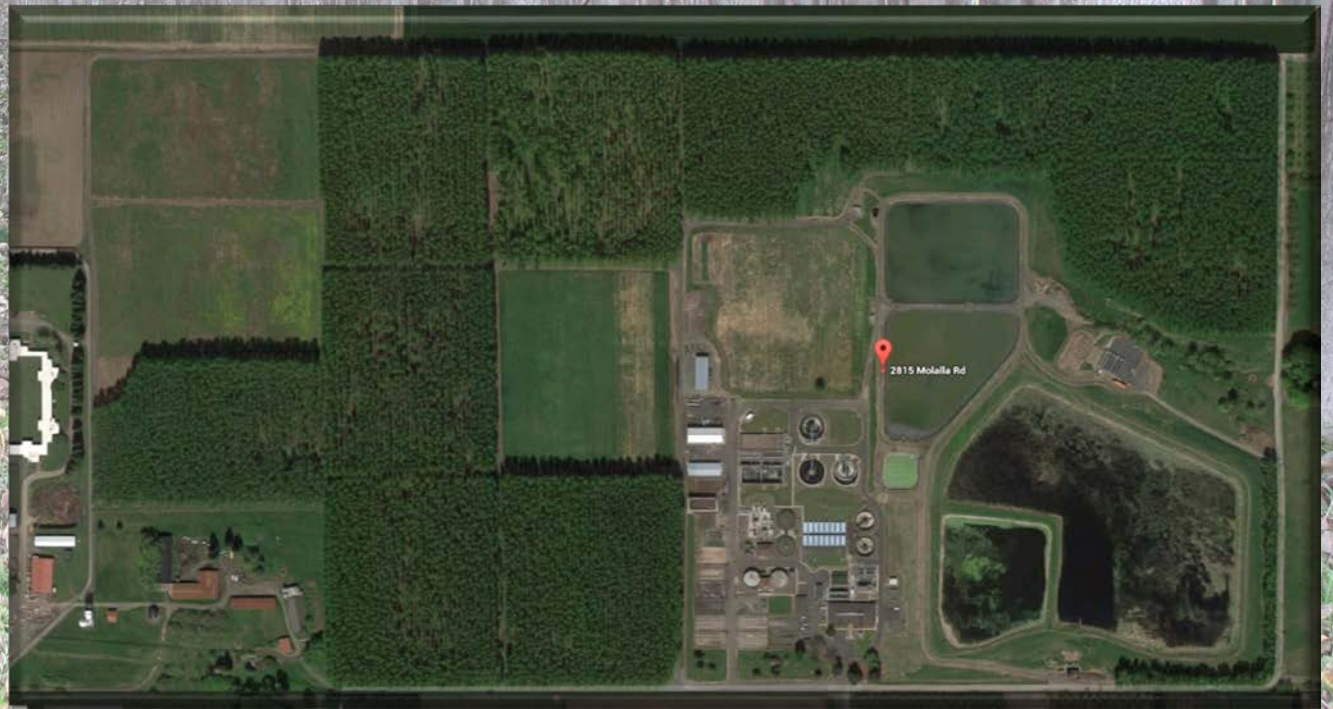
2-2.25 Acres

Volume 8.8 MG each
(17.6 MG)

14’ Max depth

3’ water cap

11’ Design Solids depth


2815 Molalla Rd

Woodburn's Poplar System

2005

Poplar Harvest

- Spring, 2006 wind damage
- Required Harvest of 4 Acre (MU 13)

Planted in 1996

Poplar Harvest March 2007

- 24 Acres harvested
  - 3 MU
- Hand falling
  - Chainsaw
- Bunched in MU
  - Accumulator
- Pulled / hauled
  - Skidder
- Log decked
  - Accumulator

- Graves Contracting, Inc.

Poplar Harvest

- Logs were chipped on site
- Blown into chip trucks
- Delivered to the Georgia-Pacific in Toledo, Oregon

Wilson Operations, Inc.

Poplar Harvest

- Expenses
  - Logging operation and clean-up
    - $52,000
  - Road prep and repair (winter conditions)
    - $20,000
      - Utilized for future harvests
- Future Issues
  - Access for trucks
  - Timing of harvest
  - MU access road conditions
  - Acres harvested

Wind Damage 2009

2009 Wind Damage

Poplar Coppice

Conclusion

If you our not dealing with the issues today, tomorrow may be to late.