

Piney Woods Environmental Stewardship – Lake O’ the Pines

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US Army Corps of Engineers
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Piney Woods Aquatic Invasive Management

Lake O' The Pines MOU:

TPWD, NETMWD & USACE

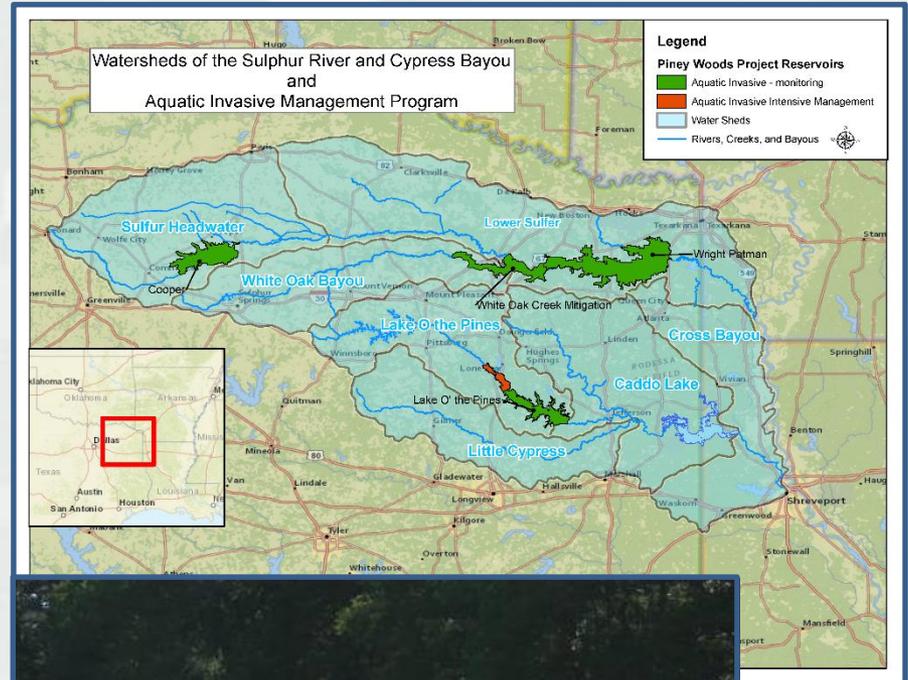
Species Treated: Water Hyacinth,
Giant Salvinia, Alligator Weed

2018 Contributions:

Aquatic Vegetation Plan - TPWD

Contracted Spraying and Surveying:
\$10,668.00 (93 hours) - NETMWD

Survey / Monitoring / Airboat
Chemical: \$3,206.00 - USACE



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Aquatic Vegetation Management

- Giant Salvinia Weevil Rearing, ETC... Continue to work with the Lewisville Aquatic Engineering Research Facility (LAERF) which surveys, raises and releases giant salvinia weevils.
- Biological control studies being conducted by Dr. Li of SFASU on treating GS with endocides (endogenous biocides) – toxic compounds derived from GS itself.
- Currently in excellent shape at all lakes because of several factors: needed funding from TPWD and partners NETMWD and LNVA for spraying whenever needed, LAERF's contribution of weevils, and prolonged cold temps '17-'18 winter. Good stock of chemicals on hand, ready for this year.



Forest / Wildlife Management

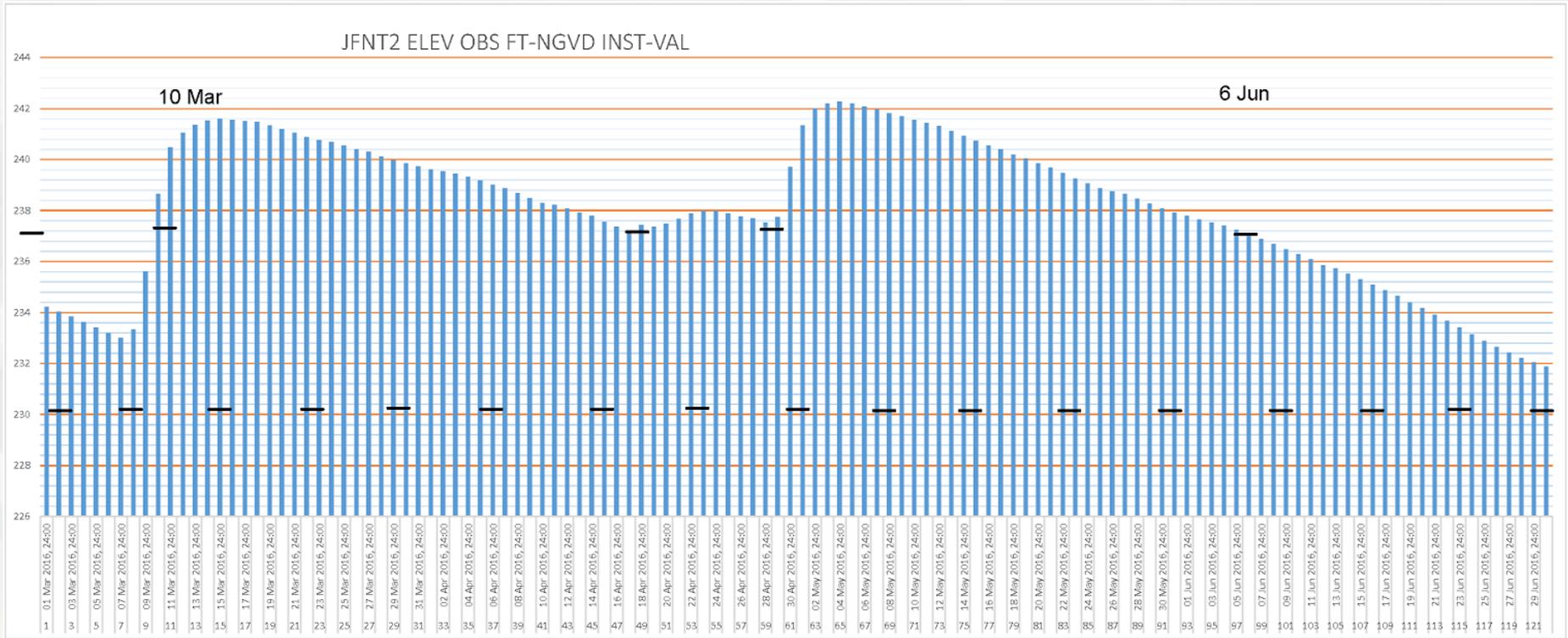
- ▶ Frequently-flooded land (issues w/ access, bisecting streams, continual SMZ / AMZ's, competing interests)
- ▶ Perform prescribed burning (wildland-urban interface with significant smoke management challenges)
- ▶ Conduct timber sales as needed: selection (single-tree and group), regeneration (shelterwood and salvage)
- ▶ Reforestation: plant bare-root and containerized seedlings (pine, cypress, flood-tolerant hardwoods)
- ▶ Apply herbicides (intermediate and site-prep)
- ▶ Wildlife food plots, counts, hunts and T&E spec mgmt



Healthy Forest Cover vs. Floods and Erosion

Acres above Conservation Pool:

- LOP Fee Land **9,251**
- LOP Flowage Easement **16,054**
- **TOTAL: 25,305**

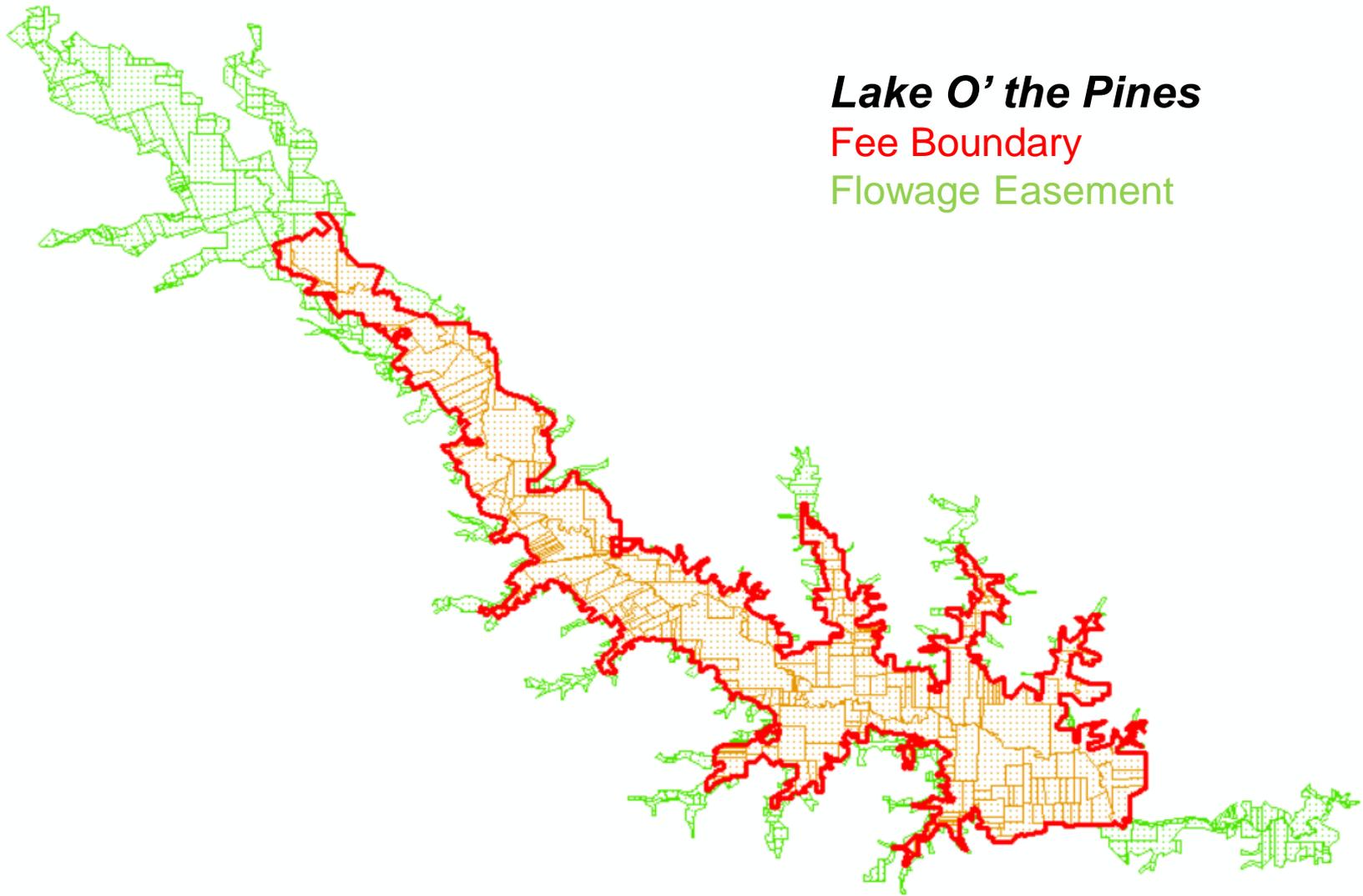


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Lake O' the Pines

Fee Boundary

Flowage Easement



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Associated Natural Resources Activities

- Miles of Boundary Line Miles to Maintain: 150
- Annual Land-Water Interface Permits: 630
- Environmental Compliance:
 - Annual Inspections of all Internal and Outgranted Operations
 - Water Quality / Public Health (powerhouse operations, outgrants and neighbors)
 - Spills and Infractions
- Cultural Resources:
 - Sites Discovered: 230
 - Acres Surveyed (89% of total 9,251) 8,270
 - High Cost of Survey and Management of Significant Sites



Cultural Island Armoring



4000 tons rip rap protecting a 22 acre burial ground island



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Questions / Comments?



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Current High Priorities

1. Restore damaged forests (over 40,000 acres)
 - Salvaged over 7,000 truckloads of damaged timber over the last 3 years
 - Cost to restore all damaged areas > \$20 million
 - Site prep w/ herbicides and plant flood-tolerant trees

2. Cultural Resources Surveys and Protection
 - Continuing Needed Surveys / Assessments
 - Protecting burial sites where exposed
 - Pursuing prosecution of violations



Current High Priorities

3. Attack / Manage Invasive Species

- Giant salvinia's biomass can double in 3-7 days
- Requires constant vigilance and resources
- Attack both chemically and biologically
- Partnerships are absolutely essential

