CHEADLE LAKE

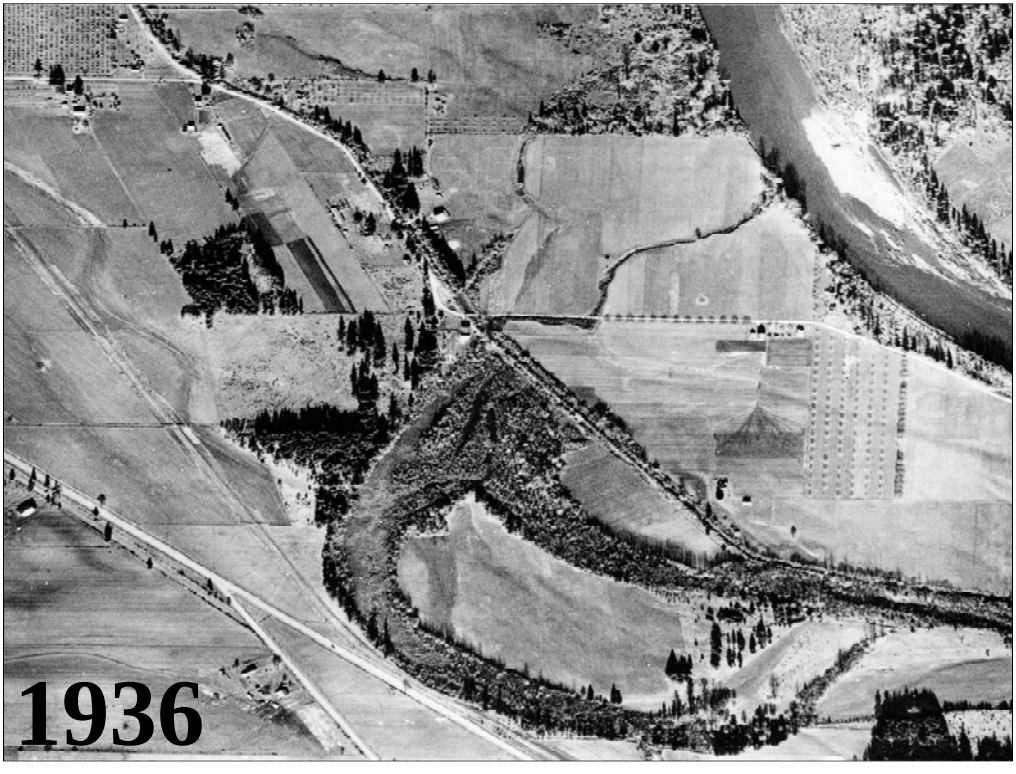
Current and Future Project Status

• Lake Development History Overview

•Update on current and proposed projects at Cheadle Lake recreational area

- North Shore Trail (Local Government Grant Program OSPD)
- Lake augmentation pump station (NW Steelheaders grant)
- Access docks – constructed 2009
- North boat ramp and public access parking area – 2009
- North Shore Trail Couplet – Application Mar 2010 – National Parks Service

• On-going issues with lake operations:



- Pre construction of mill pond
- Site used for pasture and grazing
- Regional drainage way for large southeast basin

$100,000 in homes under way for employees

March 13, 194[4]

Out in the southeast corner of Lebanon's city limits is arising a new residential district comprising 40 modern one-story homes which, when completed, will represent a total investment of more than $100,000. Known as the Walnut Park addition, this group of homes represent just another permanent and valuable feature of the advent of Lebanon's new Evans Products company plywood mill, for the dwellings are being built expressly to house the company's employees.

George W. Harden, builder of the new addition, started construction of the first 10 homes on the tract early last September, after making arrangements with Vice President M.D. Tucker of the Evans company, who agreed to purchase every home in the addition.

A second group of 10 houses was started in October and today 15 of the dwellings are completed and occupied, with the remaining five due to be finished in near future. Tentative arrangement call for the second group of 20 homes to be started following the completion of those now under way.

A drive out to the Walnut Park addition, situated on the south end of Franklin street on the property formerly known as the Merryweather tract, will reveal to the visitor the magnitude of this housing project. Although the dwellings have somewhat the same floor plan, each one is individual in exterior design.

The homes align for two blocks facing west on Franklin street, and for two blocks east and west on two newly-created streets appropriately name Harden Drive and Evans drive.

Designed by George Harden, the homes are of five-room construction, some with two bedrooms and others with three. All have a utility room on the back porch. All but two of the homes have fireplaces. All 20 are laid with hardwood floors in every room save the

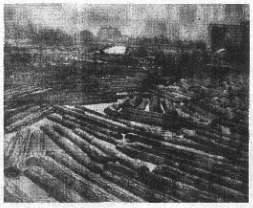
Cheadle Lake transformed into valuable log reserve

March 13, 19[4]

Once considered virtually worthless, Cheadle Lake's hundred-odd acres were recognized by far-sighted log operators and timber mill businessmen as a natural storing place of the thousands of logs that must be on hand at all times for a mill to operate efficiently. That factor weighed heavily in bringing the Evans Products plywood mill to Lebanon.

Many improvements were necessary in order to make the pond usable. The Powers Dairy Logging Company of Sweet Home was given the difficult job of preparing the pond. In mid-June 1940, 30 men, a gin monkey, two large caterpillars and a 15-yard carry-all swung into action.

First the drain from the lake, which passes under the canal that borders the northeast edge of the pond, was cleared out so that the lake could be drained and clearing work could start. Then the heavy growth of brush that extended into the lake was wiped out and 350 feet of ditching was added to strengthen the lake.



Cheadle Lake was filled with logs during the years when the plywood mill was active.

A concrete spillway section erected to permit emergency drainage, if needed, and the canal itself, was raised to the necessary water depth of seven feet, which is the present depth of the lake.

By the first of August, the job was finished and the new pond, with its newly, mud bottom left undisturbed through fear of water seepage into the gravel beneath, slowly filled.

Water from the pond comes from two sources. One is a small creek flowing from the southeast out of the Crawford District, but which flows normally only about eight months out of the year. The other source is water that is first pumped from the canal and forced to the plant's power house.

6,000 persons visit Lebanon plywood mill

March 13, 1941

More than 6000 interested spectators from all over Linn county toured through the extensive new Lebanon plywood plant of the Evans Products company last Saturday afternoon and witnessed the host of operations involved in producing the community's latest product, Douglas fir plywood.

The plant's official opening offered another attraction, too, as the celebration was held on the grounds outside the mill, where thousands of hot dogs and bottles of pop were served by the Evans Products company to visitors who flocked to the mill.

Company officials, skeptical at first of the effect the new plywood plant would realize, by publication had cast aside their doubts and expressed amazement at the numbers who continued to come. And they were still coming even after the plant closed down at 6 o'clock.

Every operation in the plant drew its share of "ohs" and "ahs" because in most of the visitors, the manufacturing process of plywood was new.

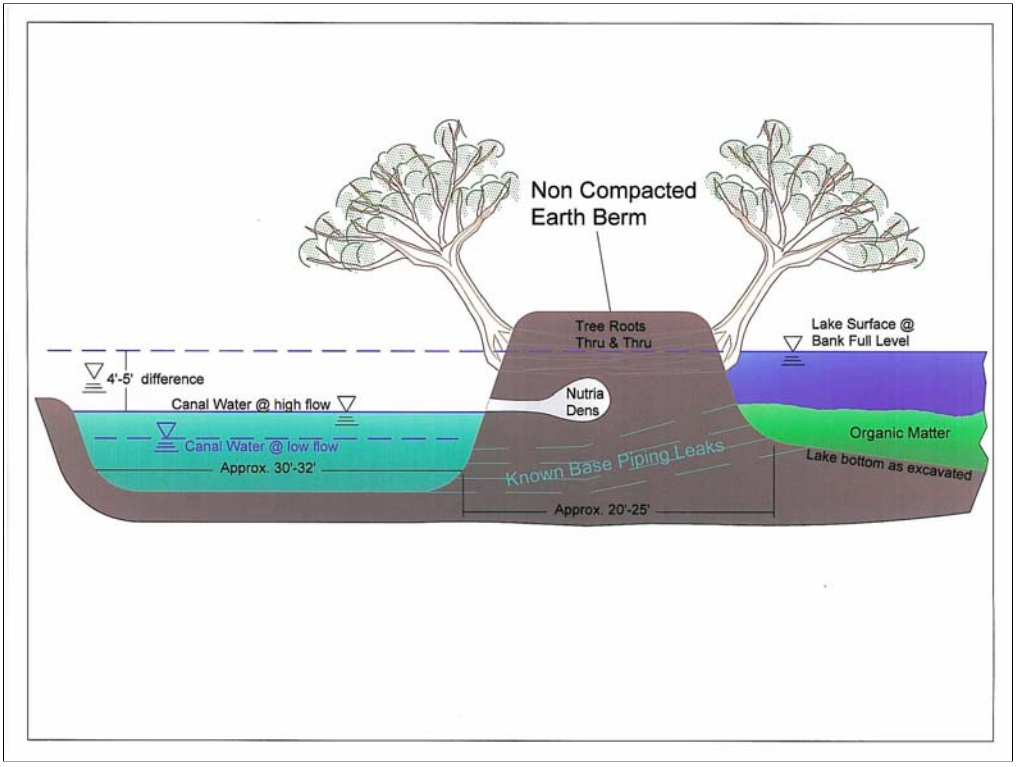
- Transition from pasture to mill pond begun in August 1940.
- Note that initially the lake water surface elevation was matched to the canal water surface elevation
- This was phase one – the large northwestern segment of the berm up to what is now the island access road. Vegetation was cleared and existing soil was excavated and pushed up onto the bank of the canal.
- Staff has never found record of any water right issued to the mill for use of Santiam River water (from the canal) to maintain the lake level for industrial use
- Note the concerns with the potential impacts of ground water connection through the bottom of the lake

- Plywood mill constructed to support war effort
- Marine plywood was specialty product

- Phase II mill pond construction N. trail segment, east of land bridge to islands
- Different construction materials for berm including large amounts of boiler ash, furnace brick, and construction debris included with sandy loam soil – all non-compacted

- Mill pond full of log rafts
- Note raft in NW corner of lake feeding green chain to mill

• Later period aerial showing segregated log rafts filling large area of pond including north shore section



• Cross section diagram of existing conditions and known issues at North Shore berm segment

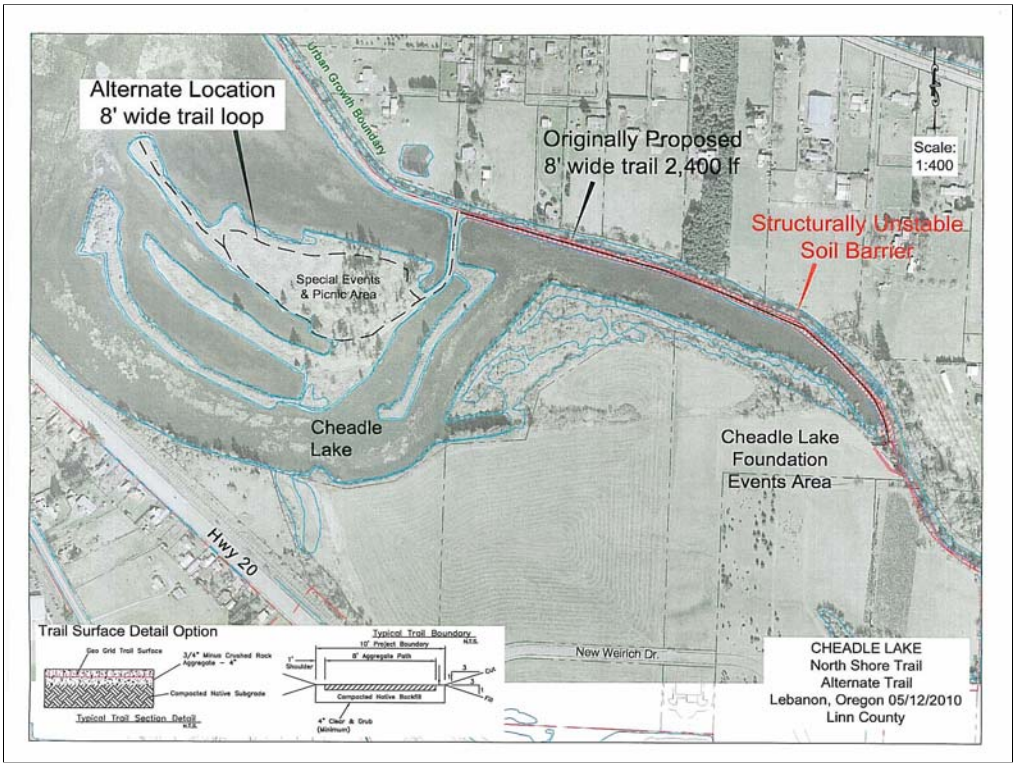
• Note that the canal now operates on a seasonally adjusted volume that corresponds to City of Albany's hydro-generation operating permit. The canal water surface elevation varies by as much as 3 to 5 feet during warm weather (low flow volume) months (typically June through October-November)

• Berm structural issues:

- Non compacted, non structural fill material
- Through and Through vegetation root intrusion
- Base 'soil piping' directly connected to canal at canal flow line
- Animal burrows and activity impacts
- Canal erosion at berm base (geometry of berm plus water dynamics)
- Lake level relative to canal operating level and hydraulic pressure on berm

• Actual Nutria den entrance within interior of lake – as lake level varies the animals will adjust the entrance to closely match water surface elevation

• Dens can extend back into bank 5 to 10 feet with an enlarged ‘living’ area



- North Shore Trail Project Status

• $50,000 Local Government Grant Program application in April 2009 – awarded in July – agreement actually signed October 2009 – City contribution $34,000 based on value of land

• 2 years to construct project (June 30 2011) – 2400 LF, fabric, structural base and pavement

• Berm segment found to be unstable for heavy equipment during site prep in Fall 2009 – placed on 'conditional watch' status for further degradation over winter as lake level approached 'bank full' condition

• Seasonal water surface elevation difference with canal and lake reached maximum early January 2010 – approximately 6 feet of water difference on lake side of berm

• Significant erosion noted on canal side of berm, numerous Nutria trails/dens, loss of trail shoulder area into both lake and canal – can not construct 8 foot wide trail segment at various locations

• Decision made to begin lowering lake water surface level to reduce pressure on lake side of the berm

• Sought input and proposal from geotechnical engineering consulting firm for evaluation and recommendations. Issues are time to complete evaluation, make recommendations, prepare design options for repairs and ultimate rehabilitation costs.

• Requested on-site evaluation from Oregon Water Resources Division, Dam Safety Inspection for opinion, recommendations and guidance – issues with risk management/mitigation.

• Began discussions with Oregon Parks and Recreation Dept to modify grant to construct adjacent trail segment on large island – with alternative surfacing treatment – staff is currently working on draft letter to OPRD for project amendment explaining conditions and alternate trail proposal – goal is to preserve grant award and construct a project within the authorized time limits

Lake Augmentation Pump Station

- Long term discussions with NW Steelheaders
- Concept design discussion begun in 2008: up to 1 cfs pumped from canal into lake during low water months – est May – October (1cfs = 2 Acre Feet or 646,000 gallons per day)
- Application for pump station grant 2009
- Grant award February 2010
- Project placed on hold Feb 2010 pending resolution of berm structural issues and lake operation sustainability assessment

• Is 1 cfs realistic and adequate to maintain a fishery habitat?

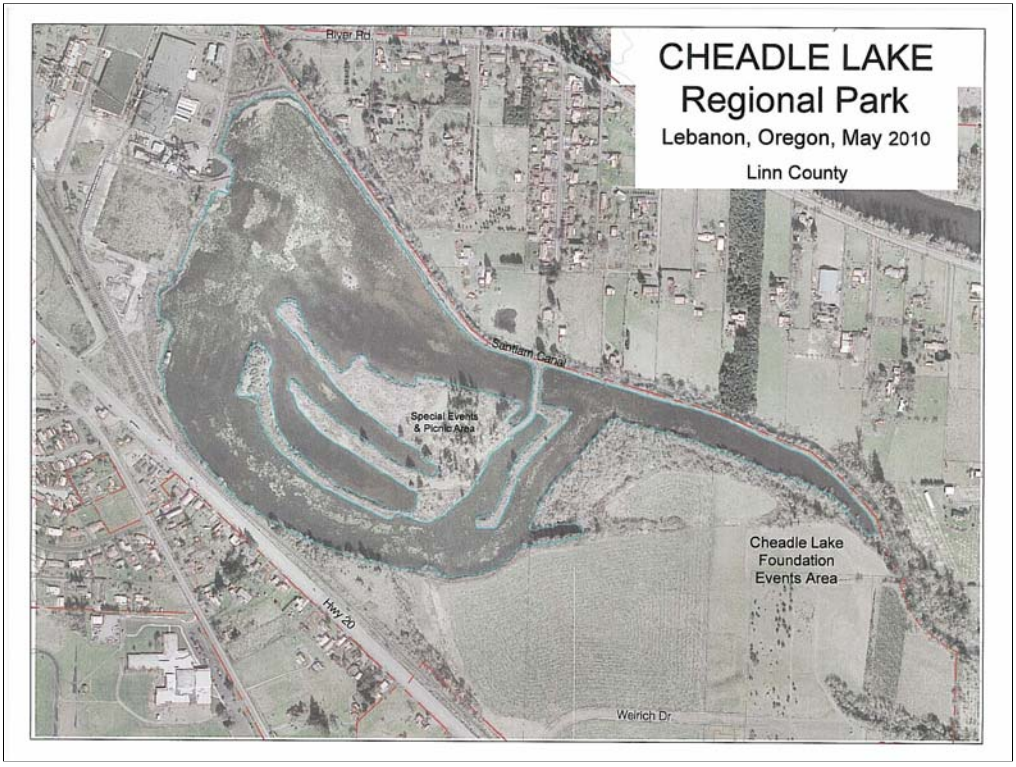
• What is the right location to introduce the water – north or south ends ?

• What are long term ramifications of creating a fishery in an artificially sustained lake?

• Need legal opinion/review by water law specialist on conversion of municipal water right to recreational use or use of municipal rights for recreational use without conversion

• What are operational costs, maintenance costs, and resource allocation impacts to existing City budgets and staffing?

• What kinds of fish? How often stocked? How managed and assessed? What are obligations incurred? Are there potential environmental issues and relationships that might be affected by introducing additional fish stocks?



2005 Aerial of Cheadle Lake for reference

Access Docks

- Constructed by NW Steelheaders 2009 with City maintenance staff site prep assistance
- Two fishing docks – floating dock sections came from dock replacement project by Corps of Engineers
- Limited mobility access fishing platform
- Boat ramp and dock – needs piling installed for wind resistance
- May 2 wind storm damage and wind impacts on remaining structures

• Structural assessment of wind damage;

• Needs professional engineer design solutions and stamped set of drawings with construction oversight (liability limitation issue and building code compliance)


2010 5 20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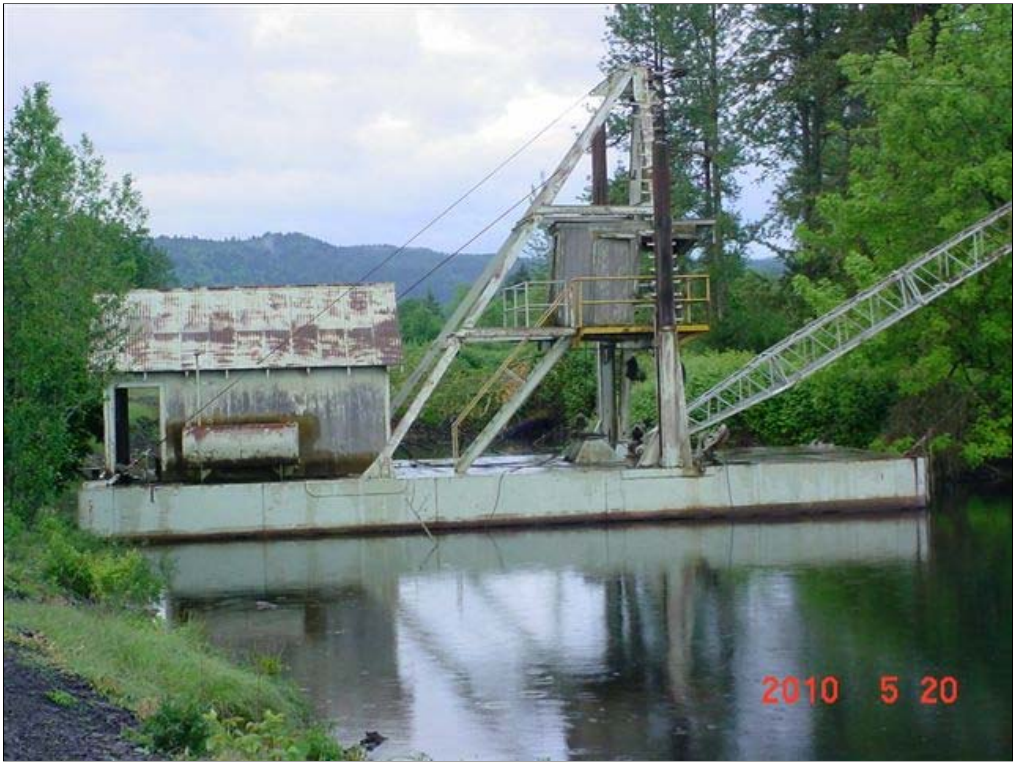
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Public Access Parking Area

- Constructed 2008/2009
- City PW Maintenance staff, Oregon National Guard, NW Steelheaders
- Enhanced ‘viewing’ area with benches at lake edge
- City maintenance staff performs regular maintenance

- Consistent public use for walking and wildlife viewing;
- Has minimized the on-street parking issues along River Road.


2010 5 20

North Shore Trail Couplet

- Connect south end of lake to Weirich Drive across Lebanon Community Foundation Property (easement) with non-paved trail (alternative surfacing)
- Land and Water Conservation Fund grant administered by National Parks Service through Oregon Parks and Recreation Department
- Application made March 2010 – decision expected by August 2010
- Project cost $26,248 with $14,055 in City match (includes $4000 volunteer labor)

• City sponsored grant application;

• If awarded plan is to evaluate surfacing alternatives such as enhanced fine aggregate/cement mix; soil stabilization options; or others that are outlined in FHWA trail design standards (and other trail construction guide resource documents)

Lake Operational Issues

- Structural condition assessment of entire berm along canal;
- Lack of lake level control – spillway, outlet valve, canal under drain, emergency canal overflow flume, bank full overflow – design and location, inundation map and emergency response, mitigation and plan development;
- Use of municipal water rights for recreational purposes – assessment of risk and impacts of converting portion of existing rights;
- Lake operational plan – year round operation and management of lake levels and volumes – stormwater runoff impacts at specific pre-existing lake levels – owning and operating a fishery;
- Feasibility and Sustainability assessment: owning and operating an artificial lake – environmental impacts, liability issues, cost estimates, financial plan and model, water right permit issues and potential impacts to lake operations and maintenance activities

- These are the two fundamental issues:
  - ➢ Entire North East Berm: Geotechnical engineering consultant evaluation, recommendations, rehabilitation design and rehabilitation costs.
  - ➢ Feasibility and Sustainability assessment, report of owning and operating an artificial lake.

- Report findings to Council for consideration and guidance.


2010 5 20


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Next Steps

- Lake level augmentation pump station project placed on ‘pause’ pending resolution of issues;
- North Shore Trail grant alternative proposal to Oregon Parks and Recreation Department;
- Research funding options for engineering consultant professional services to address berm and sustainability evaluation – present staff report to Council for consideration and further direction;
- Reconstruct lake outlet weir drain valve;
- Investigate canal under-drain and develop concept plan for cleaning and rehabilitating – conduct capacity assessment;
- Collaborate with volunteer organizations for design and installation of access dock stabilization pilings (professional engineering design required).