

# LAKES IN EDEN PRAIRIE

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PRAIRIE

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# Topics to Cover

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# Purgatory Creek System Connections

- Chain of Lakes
  - ▣ Round Lake
  - ▣ Mitchell Lake
  - ▣ Red Rock Lake
  - ▣ McCoy Lake
  - ▣ Staring Lake
  - ▣ Purgatory Creek
- In 1970 Watershed District Plan
  - ▣ Included Duck Lake, but due to poor water quality was removed
- Planning began in 1984 / Flooding almost annually now
- Connection added to alleviate / prevent flooding problems

# Superstorm of 1987

## **KARE 11 News, Jonathan Yuhas**

*"23 years ago on July 23, 1987 the Twin Cities Metro area was hit with a powerful line of thunderstorms that produced tornadoes, damaging straight line winds and historic flooding rains. Here is a look back at July 23, 1987.*

*Most of the day was sunny and hot with temperatures in the low 90s then in the late afternoon thunderstorms rapidly developed west of the Metro area. Just after 5 P.M. one of the storms produced a strong tornado in Maple Grove that destroyed 14 homes and damaged over 300 homes and business - some tornado damage was also reported in Brooklyn Park.*

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*The heavy rain continued over the south Metro and by sunrise on the July 24th parts of Minnetonka, Hopkins, Eden Prairie, Edina, Bloomington, Richfield and south Minneapolis had been hit with over 12" of rain and even some +14" rain amounts were reported along the Edina / Bloomington border. The heavy rainfall caused the Minnehaha Creek and the Nine Mile Creek to rise rapidly and turn into violent ragging torrents of water. Flooding was becoming life threatening by the late evening and some streets were under so much water that boats were the only way to get into those areas. Cars become stranded on Interstate 494 in Bloomington and people had to quickly abandon them for higher ground as the water rose over the roof tops. .... It is interesting to note that 1987 was a drought year but the July 1987 Superstorm pushed July 1987 up to the wettest July on record. "*

# Current & Future Projects – Round Lake

- Met Council Grade = B in 2008 and C+ in 2009
  - Surface area approximately 10 acres less than 2007
- Bren Lane pond – barley straw pilot project started in 2006
  - Algae / duckweed control
  - Significant fish population
- Stormwater Pond Improvements – 2009/2010
  - One pond expanded to meet NURP standards
  - One pond partially dredged to increase capacity
- Calcium nitrate – Watershed District project
  - June 15, 2010
  - To bind and inactivate phosphorus
  - Stated was depleted approximately 6 weeks after application
  - Some reduction in phosphate concentration noted

# Current & Future Projects – Mitchell Lake

- Met Council Grade = C
- DNR Shoreland Restoration Grant
- Aeration (pure oxygen injection) pilot in 2009 – saw iron fouling / limited but positive results
- Harvesting 2009 / 2010
  - 463 tons removed in June and July 2009
  - Monitoring to determine if impact on water quality

# Current & Future Projects – Red Rock Lake

- Met Council Grade = C/D (SD/TP)
- Lotus Lily, a rare species, was identified in the northeast bay in 2009
- City dredged one bay in 2005/06
  - Second bay postponed and then cancelled due to lack of adequate access
- Harvesting scheduled to start in 2011
  - City and Watershed District to coordinate

# Current & Future Projects – Staring Lake

- Met Council Grade = D-
- Carp and bullheads likely a significant influence
- Stormwater ponding system inventory 2010 / 2011
  - Stormwater pond / wetland sediment depth
  - System inventory / analysis
  - Lake evaluation (sediment cores / modeling)
  - Future projects / repairs
- Carp evaluation project to start in 2011



# Regulation of Use of Lake Waters

- City Code Section 9.60
- Nuisances
- Equipment / Lighting
- Age limits for operation of watercraft
- Towing regulations
- Narrow passages / boat operation
- Structures
- Docks
- Temporary Structures

# Examples - Docks

- Permit from City not required. Check DNR:
  - <http://www.dnr.state.mn.us/permits/water/needpermit.html>
- Length
  - Equal to the lot's lake frontage to be measured at right angles to the side lot lines
  - No greater than 75 feet long
- Width - Setback 15 feet from property lines for private docks
- No more than 450 square feet in size
- Shall not obstruct a navigable channel
- Shall not obstruct reasonable access to any other dock or similar structure

# Examples – Temporary Structures

- Within 100 feet from the shoreline
- Includes:
  - Swimming floats
  - Ski jumps
  - Navigation buoys
  - Markers
  - Diving towers

# Regulation of Use – Specific Lakes

- City Code Sections 9.61 – 9.68
- Mitchell Lake – 10 HP or less
- Red Rock Lake – 10 HP or less
- Duck Lake – No motorized watercraft, snowmobile or vehicle
- Exempts – resource management, emergency and enforcement personnel

# Shoreland Code Provisions

- City Code Section 11.50 – Shoreland Management
- Shoreland Handbook
  - [www.edenprairie.org/vCurrent/live/article.asp?r=6869](http://www.edenprairie.org/vCurrent/live/article.asp?r=6869)
- Adopted by City in 1982
  - Included shoreland setback requirements (150 feet)
  - Prohibited shoreland alterations / Restore immediately
- Revised in 1996
  - Clarified definitions
  - Added definition for shoreland impact zone (50%)

# Definitions

- Ordinary High Water Level
  - The boundary of public waters and wetlands, and shall be at an elevation delineating the highest water level which has been maintained for a sufficient period of time to leave evidence upon the landscape.
  - Mitchell Lake = 871.5 feet MSL
  - Water level on 9/10/2010 was 871.55 (+/- 0.1)
- Setback – The minimum horizontal distance between a structure or other facility and an OHWL, top of bluff, road, highway, property line, etc.
- Shoreland – Land located within 1,000 feet from the OHWL of a lake.

# Shoreland Setbacks – Mitchell Lake

- In 1982 Code section
- Natural Environment Water
- Minimum Setbacks:
  - Single Family – 150 feet
  - Multiple Family – 150 feet
    - No more than 50% of shoreland width
  - Office / Institutional / Commercial / Industrial – 200 feet
- Shoreland alterations prohibited except for roads, utilities and structures.
- Natural vegetation to be restored to the extent feasible after construction completed.

# Shore Impact Zone

- Land located between the OHWL of a public water and a line parallel to it at a setback of 50% of the required structure setback
- Mitchell Lake = 75 feet
- Intensive vegetation clearing not allowed
- Grading permit required if more than ten (10) cubic yards of material is moved
- DNR Permits – separate process



# Shoreland Alterations

- Limited clearing of trees and shrubs and pruning, cutting and trimming of trees is allowed to:
  - Provide a view of the water from the principal dwelling
  - Accommodate placement of stairways, picnic areas, access paths, beach and watercraft access areas and water-oriented accessory structures.
- Provided that:
  - Minimal amount of vegetation altered
  - Screening from the water is not substantially reduced
- Removal of trees, limbs or branches that are dead, diseased or pose safety hazards can be removed.

# Water Oriented Accessory Structure

- Structure used solely for watercraft storage, including equipment, that is limited to:
  - One only
  - < 10 feet high
  - < 250 square feet in size
  - Treated to reduce visibility from the waters and adjacent shorelands
  - No storage on the roof
  - No water or sewer supply

# Shoreline Rip Rap

- Slope must be less than 3 feet horizontal to 1 foot vertical (3:1)
- Landward extent is 10 feet from the OHWL
- Less than 3 feet high

# Rebate Program

- Shoreland Restoration
- Raingarden Construction
- 50% of project cost up to \$500
- Project to be maintained a minimum of 4 years
- 75% of plants from Blue Thumb program
  - [www.bluethumb.org](http://www.bluethumb.org)
- Inspection required before and after
  - Gopher One call before initial site visit

# Irrigation System Rebate

- Cost of sensor up to \$100
- Rain sensor or Smart Controller
- Must monitor rainfall and/or soil moisture
- Upgrade of an existing, in-ground system
- Must be purchased and installed in current calendar year
- Any utility customer
- Must follow city code watering requirements, even with a sensor

# Community Education Classes

- Living with Shoreland
  - Wednesday, October 27<sup>th</sup>
  - Basic steps on how to create and maintain a natural landscape at the edge of lakes and ponds
  - Slope stabilization, goose management, invasive species control, picking the right plants
- Environmentally Friendly Winter Maintenance
  - Tuesday, November 9<sup>th</sup>
  - Discover how to keep your driveway, sidewalk and steps safe in the winter without causing harm to water, vegetation, concrete or pets
- [www.epcommunityed.org](http://www.epcommunityed.org)

# Potential Upcoming Events

- Chamber of Commerce
  - Home, Landscape and Garden Everything Spring Expo
  - March 2011 ?
  - 2010 Workshops
    - Raingardens, What, Why, How?
    - Summer Lawn Care with Reduced Environmental Impacts
- Annual Stormwater Permit Meeting
  - May or June 2011

# Questions?

## Obituary

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### Patricia, Lake



Lake Patricia, age 12,830, after a long and grueling battle with contaminated runoff. Patricia is survived by 9,999 lakes and hundreds of rivers and streams. An active member in the aquatic community, Patricia contracted damaging amounts of algae due to high phosphorus levels given off by leaves and grass clippings that entered her system. In lieu of flowers, loved ones are asked to rake or sweep leaves from nearby streets and stormwater drains, and to mulch or compost this fall.

For more details visit  
[www.cleanwatermn.org](http://www.cleanwatermn.org)