

Ordinance Recommendation Options NWPA Technical Advisory Committee Apr. 24, 2012

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Background



Population



Demand



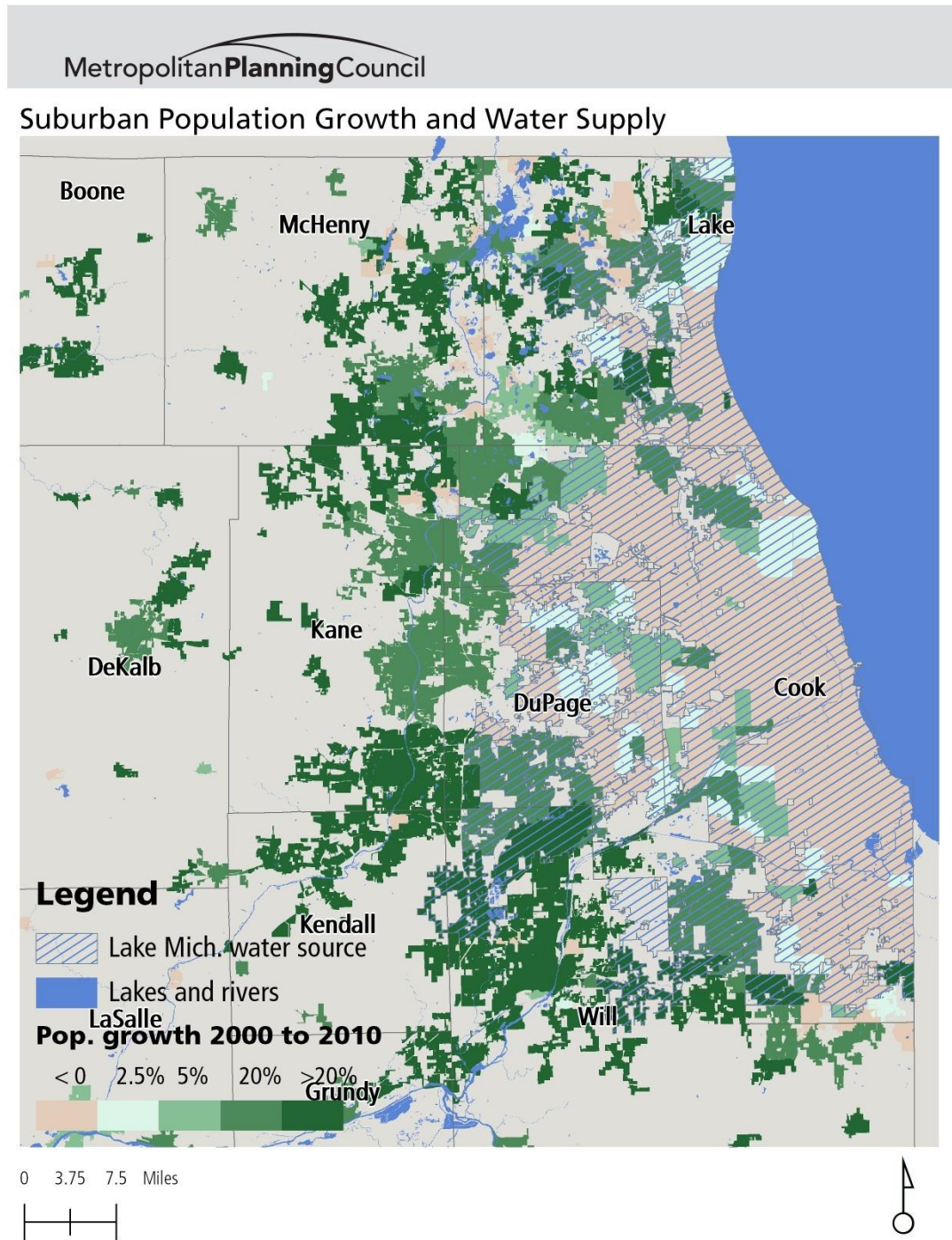
Withdrawals



Groundwater Quantity



Groundwater Quality



Background

NWPA is tasked to use a **cooperative planning approach** to sustainably provide groundwater and inland surface water supplies.

Benefits

- Consistency for people and businesses that live/work in multiple communities
- Reduced competition for water resources in dry weather
- Advises individual communities on difficult decisions
- Protects water resources for the future
- Demonstrates collaborative management

Barriers

- Difficulty coordinating and unifying so many communities of so many different types
- Recommendations are only advisory
- Failure to implement well could undermine NWPA

Background

Table 12: Potential water savings associated with conservation measures at two tiers of implementation

Conservation Measures	Low Conservation (mgd)	High Conservation (mgd)
High Efficiency Toilets ²	15.0	74.8
Water Waste Prohibition ²	12.1	60.3
Metering ¹	30.3	31.5
Leaks and Audit Repair ¹	5.9	29.7
Residential Plumbing Retrofits ²	5.2	26.0
Commercial/Industrial ³	5.0	25.2
High-Efficiency Clothes Washers ²	3.2	16.1
Large Landscape ¹	1.0	5.1
Residential Water Survey ²	0.1	0.7
All Measures - Total	77.8	269.4

Source: CMAP

Benefits increase with higher participation (low=10%, high=50%)

Water Waste Prohibition includes outdoor watering restrictions, Large Landscape is focused on landscapes > 2 acres

Lawn Watering Background

58% of residential water use goes to outdoor use

According to UIUC-Extension, Illinois lawns need **1 to 1.5in/wk** (including rainwater) and it's best to water deeply and infrequently



Pop-up sprinklers spray 1 to 2.5in/hr → **< 1 hour** needed/week



Impact sprinklers spray 0.1 to 1.5in/hr → **1.5 hours** needed/week



Gear-driven sprinklers spray 0.2 to 0.8in/hr → **< 3 hours** needed/week

Lawn Watering Ordinance

Lawn Watering Ordinance

NWPA should **recommend ordinances** and **coordinate conservation** for all member communities.

Benefits

- Maximize water conservation benefits as a region
- Reduce competition among communities
- Assist communities with difficult political decisions
- Visible role for NWPA
- Sets stage for regional coordination that could be used in future work

Barriers

- Some communities prefer autonomy or do not recognize conservation need
- Visible role for NWPA
- Communication logistics

Lawn Watering Ordinance

Should the recommended ordinance use the **color-coded status** method or not?

Pros

- Color-coding works well for outreach/education
- Flexibility to respond to changing conditions
- Possible role for NWPA

Cons

- More difficult to implement because of color variations and education needed
- Communities with a color coding system now would need to explain re-defined colors
- May give the impression that conservation is not always needed

Lawn Watering Color-Coding

Options for Red

1. Complete ban – individual community
2. Complete ban – US Drought Monitor



NWPA



individual communities

Lawn Watering Color-Coding

Options for Green

1. Mid-day and overnight restriction (ban 9a-6p & 9p-6a)
2. Even/odd by street address with time restriction (ban 10a-6p)
- ~~3. No restriction~~

Lawn Watering Color-Coding

Options for **Green** – Permitted Watering Time

Option	Permitted Hours/Day	Permitted Days/Week	Total Permitted Hours/Week per Property
Time restriction (ban 9a-6p & 9p-6a)	6	7	42
Even/odd (ban 10a-6p)	16	3 or 4	48 or 64
Even/odd (no time restriction)	24	3 or 4	72 or 96
Time restriction (ban 10a-6p)	16	7	112
No restrictions	24	7	168

Lawn Watering Color-Coding

Options for Green – Issues to Consider

Options

Time restriction (ban 9a-6p & 9p-6a)

Even/odd (ban 10a-6p)

- Need to determine what the banned/permitted hours should be
- Depends on what is decided for the Yellow option

Lawn Watering Color-Coding

Options for **Yellow**

1. CMAP model (ban 10a-6p, 2hr max, 2day/wk)
2. Hour restriction (ban 9a-6p, 2hr max, no day restriction)
3. Even/odd by street address (ban 9a-6p & 9p-6a)

Lawn Watering Color-Coding

Options for **Yellow** – Permitted Watering Time

Option	Permitted Hours/Day	Permitted Days/Week	Total Permitted Hours/Week per Property
CMAQ model (ban 10a-6p, 2hr max, 2day/wk)	2	2	4
Hour restriction (ban 9a-6p, 2hr max, no day restriction)	2	7	14
Even/odd (ban 9a-6p & 9p-6a)	6	3 or 4	18 or 24
Aurora even/odd (ban 9a-6p & 10p-5a)	8	3 or 4	24 or 32
Barrington even/odd (ban 10a-5p & 10p-5a)	10	3 or 4	30 or 40
Algonquin even/odd (ban 9a-6p)	15	3 or 4	45 or 60
Lakewood even/odd (each get 3 days)	24	3	72
Lake Villa (ban 8am-8pm, no Sundays)	12	6	72

Lawn Watering Color-Coding

Options for **Yellow** – Issues to Consider

Options

CMAF model (ban 10a-6p, 2hr max, 2day/wk)

Hour restriction (ban 9a-6p, 2hr max, no day restriction)

Even/odd (ban 9a-6p & 9p-6a)

- Difficult to enforce a 2-hour maximum (options 1 & 2), so could be abused
- Need to determine what the banned/permitted hours should be
- Even/odd may lead residents to think they need to water every other day

Lawn Watering Color-Coding

With exemptions for handheld/small watering devices, **no Orange option is needed.**

- Fourth and fifth options in Barrington and Elgin consist only of exceptions for handheld/small watering devices
- Orange in Algonquin allows only 6am-9am (Yellow allows also 6pm-9pm)
- More possibilities could be more confusing to follow
- What would really be gained with a fourth option?

Lawn Watering Single Restriction

Options for Single Restriction Type

1. CMAP model (ban 10a-6p, 2hr max, 2day/wk)
2. Hour restriction (ban 9a-6p, 2hr max, no day restriction)
3. Even/odd (ban 9a-6p & 9p-6a)

Same as Yellow, no “stoplight,” either in effect or not.

Lawn Watering Single Restriction

Options for **Single Restriction** – Issues to Consider

Options	Total Permitted Hours/Week per Property
CMAP model (ban 10a-6p, 2hr max, 2day/wk)	4
Hour restriction (ban 9a-6p, 2hr max, no day restriction)	14
Even/odd (ban 9a-6p & 9p-6a)	18 or 24

- A provision would need to be added to completely ban use in times of emergency/drought
- May be more difficult to implement for communities that already have a color-coded system in place
- Less flexibility to respond to changing conditions

Lawn Watering Ordinance Extras

1. Equipment requirements (automatic shutoff valves, timers)
2. Exempt from restrictions if:
 - a. Using reclaimed graywater, captured rainwater or recycled effluent
 - b. Filling swimming pools under 50 gallons
 - c. Using drip irrigation systems
 - d. Using watering cans or handheld hoses with automatic shutoff devices for trees, shrubs and flowers
3. Water waste restrictions
 - a. Prohibit water from running onto impervious surfaces
 - b. Handheld hoses used for car washing must have an automatic shutoff valve
4. Complete ban on July 31st and August 31st
5. New sod restrictions (see next assessment)

New Sod Watering Restrictions

New Sod Watering

Options based on most commonly existing types

1. Complete ban for some months, no restrictions the rest of the year
2. Complete ban for some months, permit required for rest of the year

New Sod Watering

Permit Option (based on most commonly existing)

Permit allows exemption for first 10 days (for months when ban is not in effect)

Permit allows:

- Day 1: continuous irrigation for 8 hours
- Day 2-10: can water any day, but follow existing time restrictions (exempt from 2 hour max)
- Day 11+: follow regular lawn watering restriction

New Sod Watering

Options for banned months (based on most commonly existing)

1. July-August
2. June 15-September 15

New Sod Watering Assessment

	Permit Necessary – Yes	Permit Necessary – No
Banned Months: July-August	<ul style="list-style-type: none">• Most common of already existing ordinances	<ul style="list-style-type: none">• Depending on regular lawn watering restriction, may be too difficult to establish new lawn
Banned Months: June 15-Sept 15	<ul style="list-style-type: none">• Highest seasonal water savings• Some may perceive to be too difficult for new development	<ul style="list-style-type: none">• Depending on regular lawn watering restriction, may be too difficult to establish new lawn

New Sod Watering Ordinance Extras

1. Exempt from restrictions if using reclaimed graywater, captured rainwater or recycled effluent
2. Exempt if doing patching or restoration under 900 square feet
3. Added on as part of the lawn watering ordinance
4. Could coincide with changes in weeds and nuisance ordinances to allow for native species and landscaping ordinances to encourage native species (roughly half already encourage)

Next Steps

Technical Advisory Committee makes lawn watering ordinance recommendation to Executive Committee for NWPA-wide adoption

Choose future area to address based on:

- Potential water savings
- Ease of implementation
- Ease of enforcement
- Benefits of collaboration

Options for next recommendation:

- Indoor plumbing & appliance standards
- Other water waste prohibitions
- Metering/pricing
- Leak detection and repair
- Conservation design
- Groundwater protection

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Contact Us:

Metropolitan Planning Council

www.metroplanning.org

www.chicagolandh2o.org

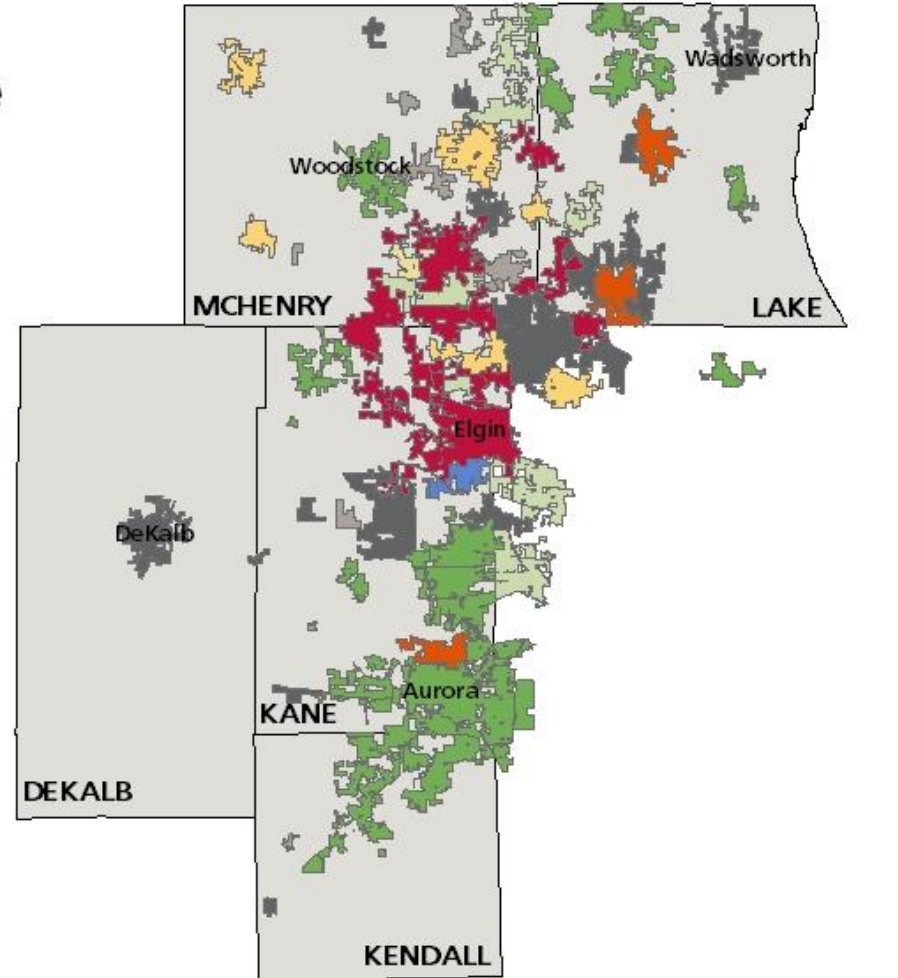
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NWPA Communities by Lawn Watering Restriction Ordinance Type

Lawn Watering Restriction Type

- Status
- Time
- Even/Odd (Time)
- Even/Odd (Day)
- Even/Odd (Day-Specific)
- Day
- Emergency
- None
- Unknown



0 5 10 20 30 Miles



Type	Description	Example	Communities
Status	Uses colors or levels to change restrictions as needed.	Green: Ban from 9am-6pm, Yellow: Evens go on even days, odds go on odd days, follow time restriction, Red: Prohibited	Algonquin, Barrington, Crystal Lake, East Dundee, Elgin, Fox River Grove, Gilberts, Huntley, Lake Barrington, Lakemoor, Pingree Grove, West Dundee
Time	Restricts watering by time only.	Ban from 10am-5pm	Deer Park, Grayslake, Lake Zurich, North Aurora
Even/Odd (Time)	Restricts watering by both time and even addresses go on even days, odds go on odd days.	Ban from 9am-6pm, evens on even days, odds on odd days	Antioch, Aurora, Batavia, Burlington, Elburn, Fox Lake, Geneva, Green Oaks, Hampshire, Lake Villa, Lindenhurst, Montgomery, Oswego, Prospect Heights, St. Charles, Sugar Grove, Woodstock, Yorkville
Even/Odd (Day)	Restricts watering by day according to even or odd address.	Evens go on even days, odds go on odd days	Bartlett, Johnsburg, Lake in the Hills, Sleepy Hollow, Spring Grove, Wauconda, West Chicago
Even/Odd (Day-Specific)	Restricts watering according to even or odd address, but by specific day of the week.	Evens go on Wednesday, Friday & Sunday, odds go on Tuesday, Thursday & Saturday	Lakewood
Day	Restricts water by day only.	No watering on Mondays. Follows Even/Odd (Day-Specific) during emergencies	South Elgin
Emergency	No regular restriction, but Mayor, Village Board or other entity in power has authority to declare a water emergency and restrict lawn watering as needed.	Mayor can make an emergency proclamation and ban all outdoor water use	Carpentersville, Harvard, Island Lake, Marengo, McHenry, South Barrington
None	No restrictions.	None	Barrington Hills, Big Rock, Campton Hills, DeKalb, Hainesville, Hawthorn Woods, Hebron, Inverness, Kildeer, Maple Park, McCullom Lake, Newark, North Barrington, Prairie Grove, Ringwood, Tower Lakes, Virgil, Wadsworth, Wayne
Unknown	Ordinance not yet found.	Unknown	Bull Valley, Cary, Greenwood, Kaneville, Lily Lake, Millbrook, Richmond, Trout Valley, Union