# Cleaning Stone Grave Markers

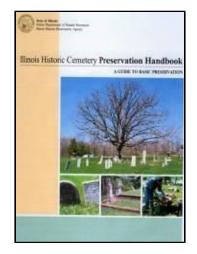
Illinois Department of Natural Resources Cemetery Preservation Training

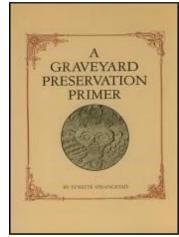
### **Cardinal Rules**

- Do No Harm
- Don't do anything that cannot be reversed
- When in doubt, contact your instructors

### **Activities Before Cleaning**

- Read, research, ask questions
- Contact the Illinois Department of Natural Resources (IDNR)
- Get written landowner permission to enter the cemetery & IDNR permit to clean the marker





### **Identify Types of Issues**

#### <u>Natural</u>

- Dirt
- Flora & fauna
- Organic (algae, lichens, moss)
- Inorganic (paint)
- Weathering

#### Man-made

- Air pollution (acid rain, carbon deposits)
- Maintenance
- Treatment & Repairs
- Vandalism

#### Steps

- Determine the problem
- Consider gentlest solution
- Follow acceptable methods
- Don't expect a "like new" appearance
- Allow time to improve stone's appearance

#### Leave these items at home...

- Bleach
- All household cleaners
- Abrasive pads
- Wire or stiff-bristle brushes
- Rotary wheels
- Metal scrapers
- Power washers



#### **DO NOT** Use Any of These

- TSP
- Borax
- Calgon
- Formula 409
- Spic and Span
- Fantastic
- Windex
- Woolite
- Liquid detergent

- Hydrochloric Acid
- Muriatic Acid
- Phosphoric Acid
  - Lime Away
  - Naval Jelly
- Oxalic Acid
- Sodium Chloride
- Sodium Sulfate
- Sodium bicarbonate
- Ammonium carbonate

#### Remember...

- Stay away from any product whose formula contains the words: <u>acid</u> or <u>sodium</u>.
- Do not rely on product label or advertising. Major brand name products are generally intended for household use.
- Do not rely on products whose instructions say to use it on dry stone.
- Be concerned if the product label contains health warnings.
- Improper cleaning products can cause serious and irreparable damage to stone.

### **Essential Toolkit**

- Clean water source (2-3 gal. tank sprayer or hose)
- Soft-bristle brush
- Plastic scraper or wooden craft stick
- Plastic bucket
- Clean rags
- Safety glasses
- Gloves



Use white or natural bristle brushes







#### Safety First

 Use caution when working around leaning markers

 Some may appear stable but can topple easily





#### **Check Condition of Stone**









#### **Check Condition of Stone**

#### Safe to clean



#### Unstable – Do not clean



#### Photograph Before & After

 Photograph the stone <u>before</u> starting cleaning process

 Take a comparison photo 6+ months later





#### **Remove Plant Growth**

- Ivy, ferns & moss can deteriorate stone
- Gently pull plants from surface & out of cracks. Clip as needed but <u>don't yank</u> roots from the stone
- Brush away any remaining soil or debris
- Clean as recommended below



Use caution when working with poison ivy!

### **Basic Washing**

- Always pre-soak stone with water before cleaning
- Clean stone using water & soft brush



#### Start at Bottom...Work Upward

- Start with the back side
- Test a small area
- Clean from the bottom up





#### **Elbow Grease**

- Use small, circular motion
- Rinse often to keep stone moistened during cleaning
- Craft sticks are helpful when cleaning the inscription
- Use plastic scrapers to remove excess surface dirt & debris



#### Rinse, Rinse, Rinse

- Use lots of clean
  water...rinse often
- Use hose or garden tank sprayer



#### **Biological Growth**



- Algae, lichen, mold, fungi
- Traps moisture
- Acidic "roots" dissolves stone
- Solution?



# **Removing Biological Growth**

- Pre-wet stone with clean water
- Use plastic scraper & soft brush to gently remove lichens or moss
- Rinse & clean with approved biological cleaner





### Approved Biological Cleaner

- <u>D/2 Biological</u> <u>Solution</u>
- Easy to use
- "Immediate Result" method
- Safe for marble markers (pH of 9.5)
- Safe for environment
- Tested & approved by National Park Service



# D/2 – "Immediate Result" Method

- Pre-wet surface (<u>always</u> pre-wet the surface even if product label says to apply to dry stone)
- Apply with brush, pump spray or spray bottle
- Allow to remain on surface for 3-5 minutes. Lightly spray with clean water or additional D/2 to maintain moist surface during this time
- Gently scrub surface
- Allow D/2 to remain on surface for additional 5-10 minutes, spraying to maintain moist surface
- Reapply D/2 and gently scrub surface
- Rinse thoroughly with clean water

### D/2 Biological Solution

- D/2 Biological Solution can be applied full strength for heavy biological deposits
- It can also be diluted from 1:1 to 1:4 parts water by volume to remove light biological deposits
- Avoid splashing the liquid in your eyes
- The use of gloves and safety glasses is recommended even though this product has no specific hazards
- In most cases, this product keeps surfaces clean for up to a year

# D/2 Biological Cleaner

#### <u>Distributors</u>

Bonstone Materials Corp., WI http://www.bonstone.com/products/d/2

Granite City Tool, St. Cloud, MN <u>http://www.granitecitytool.com/</u>

Lime Works, Telford, PA http://www.limeworks.us Granite City Tool, Barre, VT http://www.granitecitytoolvt.com

Bicknell Supply, Elberton, GA http://www.bicknellsupply.com/

### Improvements

- Take "before" photograph of your work
- After cleaning, allow Mother Nature to improve your effort
- Sun, wind, and rain will continue to clean the stone
- After 6+ months, take another photograph and compare it with the "before" photos
- Only clean stone every 5-10 years, if needed

## **Questions**?

- E-mail: <u>dawn.cobb@Illinois.gov</u>
- Phone: 217/785-4992

- <u>https://www2.illinois.gov/dnrhistoric/Preserve/Cemet</u>
  <u>ery/Pages/default.aspx</u>
- Photo credits & content: Dawn Cobb (IDNR), Hal Hassen (IDNR) & John Heider