

City of Highland Park  
Lakefront Commission  
1707 St. Johns Avenue  
Highland Park, IL 60035

Brochure Design, Blueraven Creative, LLC



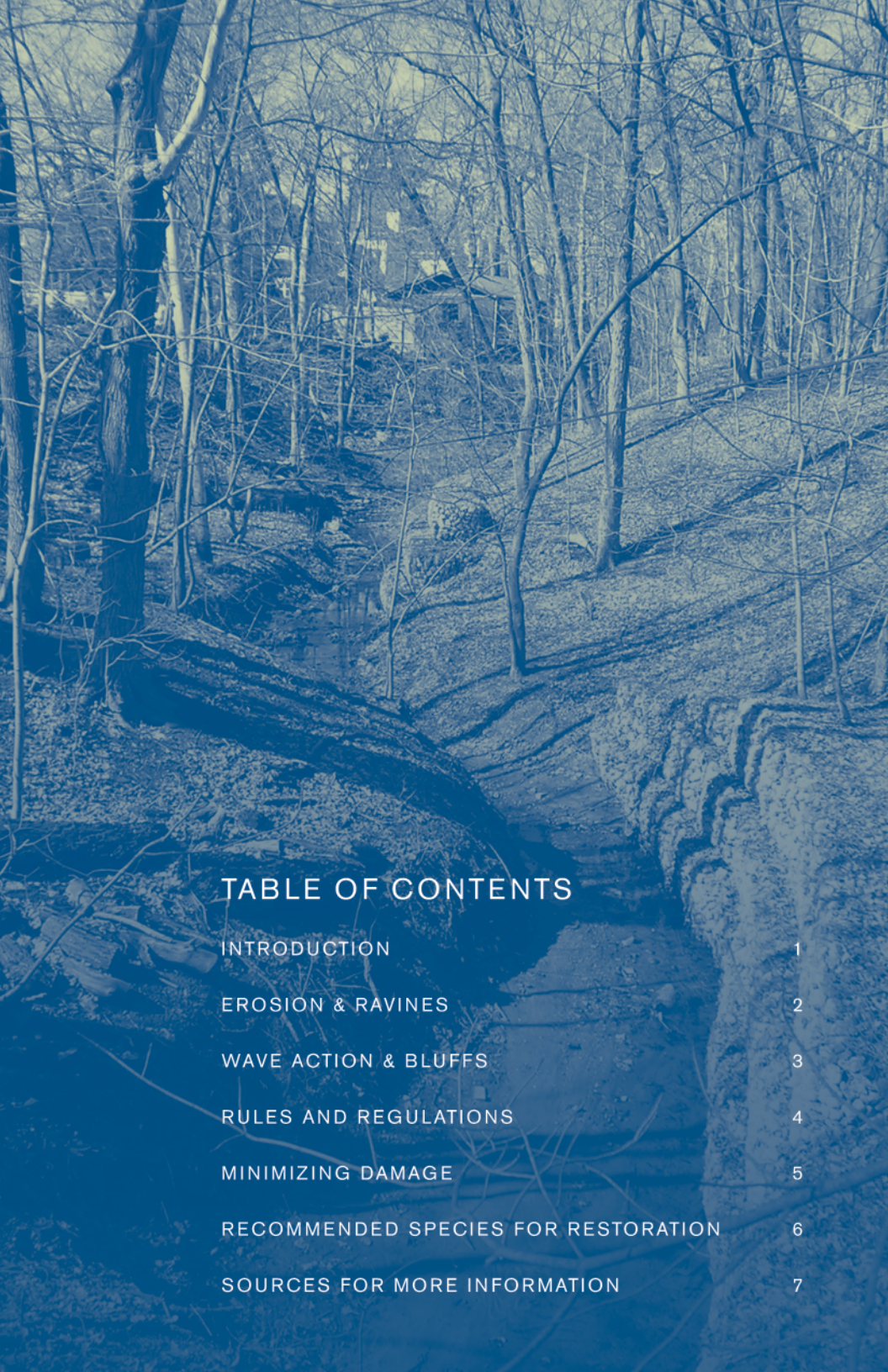
LIVING IN  
A RAVINE  
&  
LAKEFRONT  
COMMUNITY



*A homeowner's guide  
to understanding and  
protecting the unique  
geology, ecology,  
and other natural  
features of ravine  
and bluff environs.*

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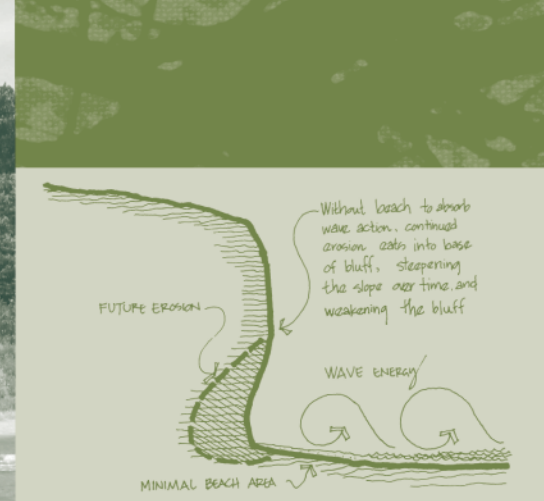
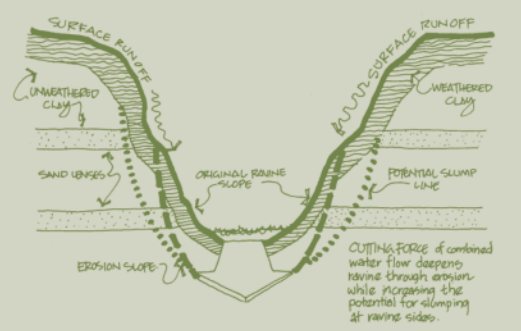
## INTRODUCTION

**R**avine and bluff properties are fragile lands which require special care if they are to be preserved for the benefit and enjoyment of current and future generations. The purpose of this brochure is to encourage a greater understanding and appreciation of Highland Park's **RAVINE-BLUFF ECOSYSTEM**, to reference development regulations pertaining to the City's Steep Slope and Beach Structure Ordinances and to provide recommendations that will preserve the integrity and natural beauty of ravine and lakefront property.

The ravine-bluff ecosystem is exclusive to the communities that lay along the Lake Michigan shoreline north of the City of Chicago. There are ten ravines in the City of Highland Park, some of which extend nearly a mile inland from the magnificent bluffs that overlook the shores of Lake Michigan. The ravines and bluffs provide both a **MICRO-CLIMATE** for rare and endangered species and **PICTURESQUE VIEWS** for homeowners. More than 750 properties now border the City's ravines and bluffs, approximately 95 percent of which are privately owned and all of which directly impact the stability of the constantly-evolving ecosystem.

*left* – The Red-tailed Hawk is easily identified by its round, russet-colored tail feathers  
*right* – Large tufts of Marsh Marigolds are abundant near marshes and streams





## EROSION & RAVINES

The ravines that were originally formed by the erosional effects of flowing water now serve as natural drainage channels for Highland Park's stormwater runoff. In many areas of the City, rainwater is collected in storm sewers that discharge into the ravines. During major storm events, an increased volume of water directly and indirectly funnels into the ravines at a high velocity. The higher rate of flow can increase the damage to ravine slopes and cause the ravine bottom to erode into deeper channels. When the channels get deep enough, the soil comprising the ravine wall is undercut and weakened. This results in **SLUMPING**, the sliding of soil and surface material that may block the channel and expose unvegetated soil that is vulnerable to further erosion. **RAIN GARDENS**, shallow depressions planted with deep-rooted native species, can stem erosion by naturally collecting runoff and reducing the amount of water that is diverted into storm sewers.

**left**—A diagram illustrating the cutting force of water  
**right**—One of the City's bluffs as seen from Lake Michigan

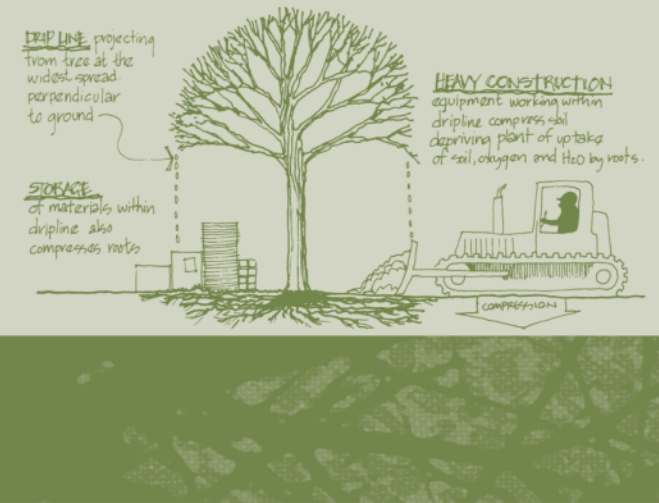
## WAVE ACTION & BLUFFS

The City's lake bluffs are susceptible to the same erosional processes that affect the ravines; and, they are also shaped by the action of waves at the bottom, or **TOE** of the bluff. Wide beaches act as a natural buffer for wave action because they are able to dissipate the energy of the waves as they roll up the beach. For this reason, fluctuating lake levels may make the bluffs vulnerable to **SCOURING** and **UNDERCUTTING**.

**top**—An illustration of the manner by which waves can erode the bluff toe  
**bottom**—The Great Horned Owl is a skilled nocturnal predator







## RULES & REGULATIONS

In order to protect Highland Park's most valuable natural resource from erosion and other soil failures, the City has implemented specific permit and building regulations to **ENSURE THE PROTECTION OF THE RAVINE-BLUFF ECOSYSTEM**. As a result, ravine and bluff homeowners who are planning for construction on their property may be required to provide soil investigations, engineering studies, geotechnical recommendations, tree preservation plans and the means and methods of construction in order to demonstrate that disturbance to the ravines and bluffs will be minimized.

Further information on the rules and regulations governing this type of construction can be found in Article VII, Section 150.701.1 *Special Regulations for the LFOZ Lakefront Density and Character Overlay Zone*, and Article XIX, *Steep Slope Zone* of the City's Zoning Code, both available through the City's website. *Please contact the Department of Community Development to obtain a supplemental handout on the rules and regulations and to discuss how these regulations pertain to proposed construction projects.*

## MINIMIZING DAMAGE

**B**efore pursuing the following recommendations, please consult the Department of Community Development and the City Forester in the Department of Public Works:

- Identify and protect existing native species of trees, shrubs, grasses and flowering plants on your ravine or lake bluff property and reintroduce native vegetation, where possible
- Identify and remove non-native species on your ravine or bluff property and replace them with native plants
- Slope patios and pavement away from bluffs and ravines in order to minimize surface or overland runoff
- Manually water the lawn when soil is dry in order to prevent unnecessary over-watering from automatic sprinklers
- Exercise precaution when draining swimming pools and promptly repair any leaks
- Regularly inspect ravines and remove debris jams that may be blocking the ravine channel
- Report abnormal channel erosion to the Department of Public Works for immediate inspection

**top** – One of the City's ravine outfalls  
**bottom** – Rain gardens attract butterflies like the Monarch



**left** – An illustration of the impact that construction may have on trees  
**right** – Trilliums appear on the forest floor at the first signs of Spring





## RECOMMENDED SPECIES FOR RESTORATION

The cold air that continually funnels up the ravines from Lake Michigan has created a micro-climate that supports a variety of specialized plants and animals. Unfortunately, erosion, grading and the removal of native plants has enabled harmful non-native plants to thrive in the ravines and bluffs. Because much of the City's natural environment is privately owned, it is up to homeowners to foster the regeneration of the natural habitat. Residents can preserve the natural areas that lend charm to the community by preserving and establishing vegetation that is native to the ravine-bluff ecosystem.

In addition to enhancing the neighborhood with an exciting array of colors, textures and scents, **NATIVE LANDSCAPING** can play a large role in lessening the impact of erosion because plant roots stabilize the soils, absorb small amounts of water and slow the speed of runoff as it travels down the slope. A healthy ravine is one that features large canopy trees and native vegetation, unexposed root systems, minimal bare spots and no slumping.

*Please contact the City Forester through the Department of Public Works for a supplemental handout of suggested plants that can promote ravine and bluff slope stabilization.*

## SOURCES FOR MORE INFORMATION

This brochure provides you with an overview of Highland Park's ravine-bluff ecosystem, regulations governing construction and activity within the Steep Slope Zone and guidelines for preventing erosion and preserving this ecological treasure. Prior to beginning any project in the ravine-bluff ecosystem, please familiarize yourself with the most recently updated Zoning Ordinance, available on the City's website.

*You must also contact the City of Highland Park Department of Community Development to obtain the proper permits before beginning any construction.*



**left** – Virginia creeper is a recommended native ground cover but is also adept at climbing  
**right** – An illustration depicting how roots help hold the soil in place

**top** – Homes overlooking Lake Michigan from a bluff just north of a ravine inlet  
**bottom** – Striped skunks hole up in dens at the forest border





**left**—A stream winds through a ravine-bottom  
**right**—Grey squirrels spread seeds to sustain a healthy forest

Sugar maples abound in a ravine ecosystem

**F**or further information on any of these topics, please contact:

**CITY OF HIGHLAND PARK  
DEPARTMENT OF COMMUNITY DEVELOPMENT**

1150 Half Day Road • Highland Park, IL 60035  
847-432-0867 • [www.cityhpil.com](http://www.cityhpil.com)

**CITY OF HIGHLAND PARK  
DEPARTMENT OF PUBLIC WORKS**

1150 Half Day Road • Highland Park, IL 60035  
847-432-0807 • [www.cityhpil.com](http://www.cityhpil.com)

**PARK DISTRICT OF HIGHLAND PARK**

636 Ridge Road • Highland Park, IL 60035  
847-831-3810 • <http://www.pdhp.org/>

**LAKE COUNTY FOREST PRESERVE DISTRICT**

2000 North Milwaukee Avenue • Libertyville, IL 60048  
847-367-6640 • <http://www.lcfpd.org/>

**LAKE COUNTY SOIL AND WATER CONSERVATION  
DISTRICT**

100 N. Atkinson Road, Suite 102A • Grayslake, Illinois 60030  
847-223-1056 • [www.lakeswcd.org](http://www.lakeswcd.org)

**LAKE COUNTY STORMWATER MANAGEMENT  
COMMISSION**

333-B Peterson Road • Libertyville, Illinois 60048  
847-918-5260 • [www.co.lake.il.us/smc/](http://www.co.lake.il.us/smc/)

**ILLINOIS DEPARTMENT OF NATURAL RESOURCES**

2050 W. Sterns Road • Barlett, Illinois 60103  
847-608-3100 • [www.dnr.state.il.us/](http://www.dnr.state.il.us/)

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