



# NCRN Natural Resource Quarterly

SUMMER 2011

## Birch Family Natives of the National Capital Region Network

By John Parrish

There's more to know about the nine native birches of the National Capital Region Network (NCRN) than white bark and lightweight canoes. Most trees and shrubs of the Birch family (*Betulaceae*), are native to subarctic and cold temperate regions of the Northern Hemisphere. The family contains six genera and approximately 150 species worldwide. Seventeen of those species are native to the eastern US.

Birches bear male and female flowers on the same plant. The male catkins are elongate, round in cross-section, and pendulous when flowering. In winter and early spring they hang conspicuously from twigs near the ends of branches. Pollen is carried by wind from male catkins to smaller and variously shaped female flowers. After pollination, flowers develop into fruits borne as nuts (*Corylus*), nutlets (*Carpinus* and *Ostrya*), or tiny samaras (*Betula* and



River Birch (*Betula nigra*). Above: the female catkin. Left: bark on new branches and trunk.



NPS Photos/Norstrup

*Alnus*). The nuts and seeds are an important food source for birds and small mammals.

The wood, bark, and nuts of birches have many commercial uses. Most American-made toothpicks are from birch wood for example. Birch oil is (*Cont'd next page*)

## Coming to Your Park this Summer...

	Amphibian Monitoring	Exotic Plant Management	Fish & Macroinvertebrate Monitoring	Forest Bird Monitoring	Forest Vegetation Monitoring	Veg Map Accuracy Assessments	Water Monitoring
ANTI *							
CATO							
CHOH							
GWMP							
HAFE							
MANA							
MONO							
NACE							
PRWI							
ROCR							
WOTR							

activities scheduled for June/July/August

## Natural Resource Tweets

Want to know more about what's going on with natural resources in NCR parks? Look for the latest news on the NCRN's Twitter feed! Follow us at <http://twitter.com/NPSCaptlAreaSci>. Suggestions for news items are always welcome and can be sent to [Megan\\_Norstrup@nps.gov](mailto:Megan_Norstrup@nps.gov).

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\*Park acronyms on page three.

## Birches *continued*

used for flavoring. Hazelnuts are made into nut butters and various food products. The shock resistant woods of hop hornbeam and ironwood are used for tool handles, mallets, and golf club heads.

### The Nine “Birches” of the NCRN

**Yellow Birch** (*Betula alleghaniensis*) is a tree of the mountains in our region. They grow at CATO along streams and at high elevations. Bronzy-yellow bark peels away in thin flakey strips while twigs and inner bark have a faint taste and smell of wintergreen. The wood of yellow birch is used for cabinetry, flooring and toothpicks. Due to a preference for cool climates, yellow birch is likely to suffer a shrinking range as a result of climate change. Monitoring this tree could be a good way to gauge impacts of climate change in our region.

**Black Birch** (*Betula lenta*), is a tree most plentiful in the mountains, uncommon in the Piedmont, and absent from the Coastal Plain. The dark bark resembles cherry bark. Birch oil (Methyl salicylate) is distilled from the inner bark and twigs. Wintergreen (*Gaultheria procumbens*) also produces this oil which is called wintergreen oil when extracted from the plant. Black birch is the original source of flavoring for birch beer. The oil is also used for flavoring candy. In spring, black birch can be tapped to make birch syrup, a sweetener similar to maple syrup.

**Gray Birch** (*Betula populifolia*), native to the Northeast U.S. and Canada, occurs at the southern edge of its range in



NPS Photo/Nortrup

Retired Chief of Natural Resources for NCR Jim Sherald, admires a large *Carpinus caroliniana* (Ironwood or Musclewood) in Prince William Forest Park.

the NCRN and so is extremely rare here. Gray birch are known from sites along the fall-line in the upper Anacostia River watershed but not known from any NCRN park. The Baltimore-Washington Parkway and Greenbelt Park have the most suitable habitat for this birch. Gray Birch is a pioneer tree usually found along forest edges, in burned areas, and other disturbed open ground in sandy or gravelly soils. The bark color is grayish-white.

**River Birch** (*Betula nigra*) is the most common birch in our region. This multi-trunked tree is locally abundant along the banks of the Potomac River but can be found along the banks of smaller streams too. They prefer to grow in floodplain habitats leaning out over water. The small branches are graceful and pendulous. The attractive chalky white to tan colored bark peels away from the trunk and branches. The old bark eventually becomes dark gray and scaly. River birch is a popular landscaping tree.

**Smooth Alder** (*Alnus serrulata*) is a shrub always found near water. Favorite habitats are stream banks and swamps. Smooth alder is widely distributed in our region but uncommon. Like other alders they maintain a symbiotic relationship with nitrogen-fixing bacteria. The alder gets nitrogen from the bacteria via root nodules and in exchange provides the bacteria with carbon. Alder thickets in wetlands provide nesting habitats for birds. The seeds of smooth alder are eaten by many bird species.

**Ironwood** (*Carpinus caroliniana*), also called Ameri-

## Shooting Stars Surprise Manassas

Delicate shooting stars (*Dodecatheon meadia*) were recently discovered at Manassas National Battlefield Park. Shooting stars, named for their pendulous cone-shaped flowers that resemble pink badminton birdies, are part of the primrose family. They have never previously been recorded in the park, or the county of Prince William, Virginia. The flowers were found during a wildflower walk sponsored by the National Capital Region Inventory & Monitoring Network (NCRN I&M).

For more information about wildflowers at Manassas visit <http://www.nps.gov/mana/naturescience/wildflowers.htm>.



NPS Photo/Asher

Shooting stars (*Dodecatheon meadia*)



NPS Photo/Parrish

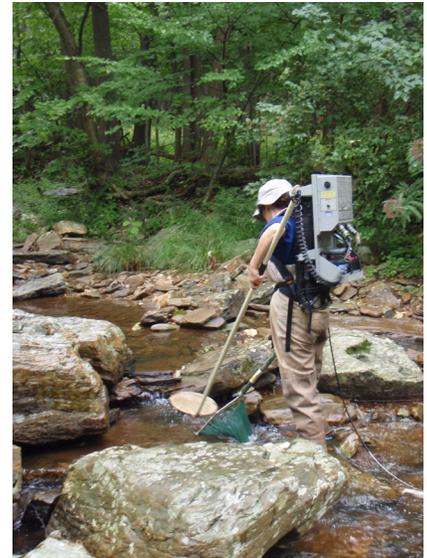
# Fish Resource Brief Available

Fish in the NCRN are telling us something we probably already knew, but maybe didn't want to hear—their populations and habitats are not as healthy as we would hope. Most NCRN parks host short portions of streams whose condition largely reflects upstream (non-park) watershed condition. But parks still can, and do, have a positive effect on their streams and fish through mitigation and restoration efforts.

The I&M program will continue to monitor NCRN's fish populations and water quality for changes in condition. I&M has monitored fish populations in the NCRN since 2006 along with benthic macroinvertebrates as part of I&M's larger effort to track stream and water quality conditions.

For a discussion of NCR fish populations and issues, a new resource brief is available at: [http://science.nature.nps.gov/im/units/ncrn/network\\_products.cfm#Briefs](http://science.nature.nps.gov/im/units/ncrn/network_products.cfm#Briefs).

An NCRN fish monitoring crew member electrofishes in CATO's Big Hunting Creek last summer.



NPS Photo/Norstrup

## Birches *continued*

can Hornbeam, Blue Beech, or Musclewood, is a common understory tree of moist slopes and bottomlands. It has a distinctive smooth, gray, fluted trunk and branches. Most trees lean gracefully and are well branched. Like many members of the birch family they have fine twigs. The wood is very hard and durable.

**American Hazelnut** (*Corylus americana*) is a multi-stemmed shrub usually growing in rich moist soils. It is widely distributed across the region but is uncommon. American Hazelnut is one of the earliest woody plants to flower, sometimes blooming in late winter. The male catkins are conspicuous when blooming. They grow up to four inches long when releasing pollen. The tiny female flowers are a bright magenta and measure less than two millimeters. Look thru a hand lens to appreciate their beauty. By late summer the shrubs bear edible nuts housed in a leafy husk that are relished by wildlife. Your chances of finding some for yourself are not so good.

**Beaked Hazelnut** (*Corylus cornuta*) is similar to American Hazelnut in growth habit. The husk around the nut is tapered to resemble a beak. Beaked Hazelnuts are rare in our region. They too bear edible nuts favored by wildlife. They grow in various habitats ranging from dry rocky woods to seepage swamps. In the NCRN they are known only from CATO and HAFE.

**Hop Hornbeam** (*Ostrya virginiana*), also called Ironwood, is an uncommon small understory tree of rocky ground in the Piedmont and Mountains. The bark of ma-

ture trees is more or less shaggy and flakes away from the trunk in short vertical strips. This feature contrasts with the smooth cherry-like bark of young branches. Hop Hornbeam has very hard durable wood.

## Other Birch Family Members of the Mid-Atlantic Region

**Speckled Alder** (*Alnus rugosa*) and **Paper Birch** (*Betula papyrifera*) are the only Birch Family members native to the Potomac River watershed not found in the NCRN. Although unlikely, it is possible to find Speckled Alder in our region at CATO or in the westernmost portions of CHOH. It is highly unlikely that Paper Birch grows in our region. Both species grow at high elevations in the Appalachian Plateau Province west of our region. **Seaside Alder** (*Alnus maritima*) is found on Maryland's Eastern Shore and **Green Alder** (*Alnus viridis*) occurs to our north in south-central Pennsylvania.

### Park Acronyms

ANTI = Antietam National Battlefield  
CATO = Catoctin Mountain Park  
CHOH = Chesapeake & Ohio Canal National Historical Park  
GWMP = George Washington Memorial Parkway  
HAFE = Harpers Ferry National Historical Park  
MANA = Manassas National Battlefield Park  
MONO = Monocacy National Battlefield  
NACE = National Capital Parks - East  
NAMA = National Mall and Memorial Parks  
PRWI = Prince William Forest Park  
ROCR = Rock Creek Park  
WOTR = Wolf Trap National Park for the Performing Arts

## State of the Birds Report

Publicly owned land supports at least half of the entire U.S. distributions of more than 300 bird species, according to the 2011 State of the Birds Report recently released by the Department of the Interior.

The report concludes that America's public lands and waters, ranging from national wildlife refuges to national parks to national forests, offer significant opportunities to halt or reverse the decline of many species. More than 1,000 bird species inhabit the U.S., 251 of which are federally

threatened, endangered, or of conservation concern.

The 2011 report is available at: [www.stateofthebirds.org](http://www.stateofthebirds.org). Information on birds in the NCRN is available at [http://science.nature.nps.gov/im/units/ncrn/monitoring\\_birds.cfm](http://science.nature.nps.gov/im/units/ncrn/monitoring_birds.cfm).



D.C. Dept. of Transportation photo

Work was halted in May at NACE's Anacostia Park when ospreys nested atop a construction crane.

## New Natural Resource Materials Available

The 2010 NPS publication, "**Rapid Response to Insect, Disease & Abiotic Impacts: Procedures to Protect Forest Integrity in Units of the National Park System within Eastern forests**" is available at: [http://www.nps.gov/nero/ipm./Forest-Insect-n-Disease-Rapid-Response-Plan\\_final-2010-08-05.pdf](http://www.nps.gov/nero/ipm./Forest-Insect-n-Disease-Rapid-Response-Plan_final-2010-08-05.pdf)

A collection of recent **Integrated Pest Management (IPM) and invasive species resources** are available on the regional natural resource sharepoint site at:

<http://inpncrosp.nps.doi.net:8094/IPM/default.aspx> under "shared documents."

A **video on Ticks and Lyme disease** at Greenbelt Park is available at <http://www.nps.gov/gree/parkmgmt/tick-and-lyme-disease-information.htm>.

An **electronic field guide** that uses facial recognition technology to identify trees in ROCR and Washington, DC is available at <http://leafsnap.com/>.

## Calendar

2011

JUNE

9. Invasive Species Conference. Silver Spring, MD. Registration is \$20. Visit [www.invasiveplantcontrol.com/registration.cfm](http://www.invasiveplantcontrol.com/registration.cfm) or contact Steven Manning at 615-969-1309.

22. Pollinator Conservation Course. Beltsville, MD. To register call 503-232-6639. Details available at <http://events.r20.constantcontact.com/register/event?llr=tnjebhdab&oeidk=a07e3ldevu535879880>.

JULY

21. NAT (Natural Resources Advisory Team) Meeting. WOTR.

AUGUST

10-13. Maryland Streams Symposium and Mid-Atlantic Volunteer Monitoring Conference. Westminster, MD. <http://www.dnr.state.md.us/streams/streamSymposium.asp>.

OCTOBER

20. NAT (Natural Resources Advisory Team) Meeting. Location TBD.

### National Capital Region Inventory & Monitoring Network:

Program Manager: Patrick Campbell  
Botanist: John Parrish  
Data Manager: Geoff Sanders  
GIS Specialist: Mark Lehman  
Hydrologic Technician: Jim Pieper  
Hydrologic Technician: Tonya Watts  
Quantitative Ecologist: John Paul Schmit  
Science Communicator: Megan Nortrup  
Water Resources Specialist: Marian Norris

Visit NCRN I&M at:  
<http://science.nature.nps.gov/im/units/ncrn/index.cfm>  
<http://imnetsharepoint/NCRN/default.aspx>

*NCRN Natural Resource Quarterly* offers updates on the status of park natural resources and Inventory and Monitoring (I&M) "vital signs" for the NPS National Capital Region Network (NCRN).

Questions or comments? Contact Megan Nortrup by email or at 202-342-1443 x214.