



Iowa NatureMapping

Finding All the Pieces to Keep Common Species Common

Iowa State University, Extension Wildlife
SPRING 2003/ Volume 1, Number 1
www.extension.iastate.edu/naturemapping

Coordinator's Comments

Ever since Iowa NatureMapping's very first training workshop on February 13, 1999, I have discovered just how dedicated Iowans are toward this state's natural resources. No matter what motivates NatureMappers, no matter what their background, one thing is clear: NatureMappers are making a difference. Thank you to all who have stuck with us over the last several years. The program continues to grow and improve. Your continued involvement is at the heart of NatureMapping's success!

This issue reflects much progress in the program over the course of nearly 4 years. (Wow, 4 years!) In this issue, many important announcements are made, including the newly developed and improved monitoring protocols and data entry forms. Please take the time to read the information provided.

We have been looking at your data! Our promise to you from the very beginning has been to provide you with feedback on what NatureMappers are reporting throughout the state. Over 17,000 records have been recorded since the very beginning! This is tremendous! A list of species and some tables have been compiled so you can see what's been going on. A map or two have been thrown in here as well.

Because I am admittedly not the most technologically savvy person I know, we have hired a half-time database and web administrator for NatureMapping. His name is Todd Vens. You'll be introduced to Todd later in this issue. His expertise will help ensure that your web-related questions are addressed and dealt with in a timely manner.

We want to hear from you! We will always make room for anything you would like to print about your NatureMapping efforts. We have included information in this newsletter on how you can share your efforts.

Finally, this is just the first in what will be an ongoing means of communicating with you. Each subsequent issue will be published quarterly. However, beyond this newsletter, if you ever have any questions, as always, please don't hesitate to contact us. Our contact information is located on this page. Again, Thank you for all your efforts!

We are proud to present the very first Iowa NatureMapping newsletter! Enjoy!

- Jason O'Brien

Educating and Engaging Iowans Through Statewide Wildlife Monitoring



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Your suggestions on topics and sections are welcome

Newsletter Submissions

Your contributions to this newsletter are welcome. We'll accept your text electronically as a plain text or Word formatted file, email, or as typewritten copy. Photos should be either JPEGS or actual prints. All submissions are subject to editing, formatting changes, and length. Throughout this newsletter are ways you can contribute. Please send all submissions to the following address:

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Eastern Meadowlark



Iowa NatureMapping is funded by a grant from the Resource Enhancement and Protection - Conservation Education Program (REAP-CEP)

All Artwork courtesy of Mark Müller

NatureMapping News

NatureMapping Has New Monitoring Protocols, Data Entry Forms, and Web site!

Over the last several years, our program has seen a tremendous growth in the number of people trained in NatureMapping. Due to the growth in the program, new protocols and data forms were necessary.

On the next page, you will see how the new protocols relate to the old protocols.

We appreciate those who provided input for these changes. With guidance from the Advisory Committee, our new database and web site manager, Todd Vens (see page 6), and active volunteers, we made improvements to the monitoring protocols we feel will make monitoring wildlife and entering data much easier and enjoyable.

Along with new monitoring protocols, we have new on-line data entry forms. You will access the forms through the web site and use the same username and password as before. These changes will be immediately apparent to you when you log in the next time you want to enter data. Don't worry, there will be an instructions page associated with the new forms to help you make the transition.

Finally, as you visit the NatureMapping web site over the next few weeks, you will see that it has a new look and new features. We will make further changes as time goes on.

Thank you for your patience and for waiting as we made these changes a reality! We feel the changes will increase your enjoyment of NatureMapping and we hope you will let us know what you think.

Iowa NatureMapping Implements New Monitoring Protocols and Data Entry Forms

Iowa NatureMapping is about to implement new Iowa NatureMapping monitoring protocols and data entry forms. In order to make the transition between the old method and the new, we have created this table showing the differences between the two. The table is split into

Monitoring Site Protocols and Wildlife Monitoring Protocols. *All new methods have been shaded.* The same information can be found by going to the NatureMappers section of the Iowa NatureMapping web site (www.extension.iastate.edu/naturemapping). All new protocol sheets and handbook pages can be downloaded from there. Questions can be directed to Jason O'Brien.

Monitoring Site		
<i>Procedure</i>	<i>Old Monitoring Protocols</i>	<i>New Monitoring Protocols</i>
Site Approval	Required	Not Required (Sites automatically available)
Manage Site List	Not Available	Can "Activate" and "Deactivate" sites in your site list as needed
Site Scale	Allowed only one monitoring site size (1-hectare)	Choice of one of the following for each new site: Point (nearest 25 meters) Non-linear Area (1-hectare) (1 to 50 hectares - up to ½ km ²) (50 to 100 hectares - up to 1 km ²) Linear (1 mile) – Ex: rivers, roads, trails (2 miles) (5 miles)
UTM Coordinates	Centered in 1-hectare area	UTM coordinates centered in "Non-linear Area" sites; "Linear" sites found with 2 UTM coordinates, one at the beginning and one at the end
Defining Habitats	Based on dominant habitat within 100 x 100 meter area (1-hectare)	Dominant habitats defined the same; Each site can now be described with up to 6 different habitats
Habitat Types and Habitat Codes	Descriptive name and 4-letter code	Same as old, with a few modifications (Ex: Urban Maintained Parkland is now Maintained Parkland; Urban distinction is now a part of the Site Descriptions – see below)
Site Descriptions	Was not included	Choice of up to 3 Site Descriptions. A way of identifying general land use; Incorporates some descriptions from old Habitat Codes (Ex: Urban Maintained Parkland is now Maintained Parkland with a Site Description of "Urban"; Ex: Schoolyard is now a Site Description instead of a habitat; Ex: Parkland can now be described as "City, County, State, or Federal")
Site Name	Created by NatureMapper	Same
Wildlife Monitoring		
<i>Procedure</i>	<i>Old Monitoring Protocols</i>	<i>New Monitoring Protocols</i>
Date Observed	Month/Day/Year	Same
Wildlife Species Observed	Iowa's Reptiles, Amphibians, Birds, and Mammals	Same list, with the addition of some bird species previously left out
How Many Observed	Number of individuals observed up to 500+	Updated list, organized by number ranges, up to 1,000,000+ individuals observed
Degree of Certainty	Was not included	A scale from 1 to 3, 3 being the most certain of the identity of the species
How Observed	Seen, Heard, Found Dead, Flying Overhead	Same with the addition of "Seen and Heard"
Additional Comments	General comments as needed	Same
Other Observers	Was not included	Allows you to identify other individuals helping you monitor

Volunteer Views

We want to hear from you! In each issue, we want to highlight the things you are doing. *In what ways are you using NatureMapping?* Write a description of your efforts. *Do you want to share an amazing critter sighting?* Send in your story and critter list, and if you have photos, include them too! *Have you discovered a book or field guide that you really like?* Write a critique. *Has your class created a project and compiled data?* Have your students send us a report, charts, and pictures!

We will return all original photos to you. Submissions will be limited to 700 words, equivalent to 4 columns, and 1 photo.



Badger

Habitat Happenings

Are you creating habitat? In each issue, we will leave room for someone who wishes to share what they are doing to create habitat on their property. Have you constructed a wetland, planted a prairie, or planted trees? Have you restored a prairie remnant or savannah? Have you enrolled your property in the Conservation Reserve Program (CRP)? Do you manage buffer strips, fencerows, or terraces? Or, have you planted your yard to attract wildlife? Let everyone know all the good you are doing for wildlife habitat. Submissions are subject to editing, formatting changes and will be limited to 200 words, equivalent to one column. Send us your accomplishments and a photo of your habitat.

Got Data?

NatureMappers Get Recognition

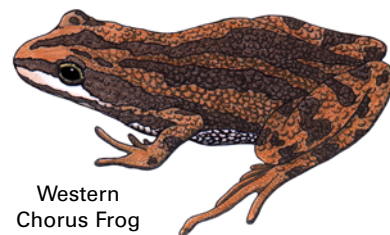
Congratulations to Ron Wilmot and his students, who won the **Keepers of the Land 2002 Director's Award!** Ron and his students were selected from 91 candidates to receive the top volunteer award from DNR director Jeff Vonk at the Volunteers in Natural Resources Conference, November 22-23rd, 2002.

Ron's students were given their award for their small mammals survey (and other activities), conducted last August at Stone State Park, in Woodbury County. (see highlight of their project in this issue)

Other NatureMappers getting recognition and receiving a certificate of appreciation were:

- *Hartman Reserve Nature Center*, Black Hawk County, for their efforts to promote NatureMapping and the Master Conservationist Program.
- *Andria Cossoloto*, Naturalist with Cass County, for her efforts to assist her local NatureMappers in setting up NatureMapping monitoring sites and entering data on-line for those who had no access to computers.

NatureMapping will continue to be a part of future *Keepers of the Land Volunteers in Natural Resources Conferences*. If you know of someone, even yourself, or group who is deserving of recognition for natural resource volunteer efforts, please make sure to fill out the nomination form included in the conference registration packet this fall. Watch for your copy in the mail.



Western
Chorus Frog



Meadow Vole

Critter Corner (By Jim Pease)

Invasion of the Lawn Snatchers!

Beep! “Please call me back immediately because I’ve got a horrible invasion of something in my yard,” the caller’s message begins. “Now that the snow’s gone, I can see tunnels all over my lawn—there must be hundreds of whatever it is and I need to know how to get rid of them!” Indeed, this is the time of year when our lawns look their worst. The snow may be gone but the grass has not started to grow. It’s matted down and brown and seems to be filled with tunnels of last year’s thatch. That is especially true near the base of the bird feeder where the blue jays and the nuthatches have tossed seeds onto the ground, apparently looking for the perfect one. Many of the grassy tunnels seem to end beneath the feeder. Who or what is the offending critter?

The meadow vole is the animal. Also known as a meadow mouse, this small, chestnut brown rodent is seldom seen but very common all over Iowa. The tunnels it makes beneath the snow are, in fact, lined with thatch from last year’s grass, giving them added insulation and perhaps some protection from the many hawks, owls, foxes, and other predators that feed on them. Voles have longish fur that almost hides their small ears and eyes. Their tail is short, usually no more than an inch, about a third the length of their body. Their legs are also short but they move quickly. About all we ever see of them is a brown blur beneath our feet as we walk through an Iowa meadow or prairie.

Since they serve as food for so many predators, they need to be prolific and produce a lot of young. Voles are sexually mature at about 32 days of age and, with sufficient food supplies, can breed year-round. With several litters per year, populations can build quickly. Localized vole

population “irruptions” are not uncommon. Just as quickly, however, local populations may practically disappear. Populations of voles are highly variable from place to place and season to season.

Voles eat a variety of plants, especially grasses and forbs. In late summer and fall, they gather and store seeds, tubers, and bulbs. They also eat the bark of young woody plants and, when populations are high, can eat food crops, especially small grains, and destroy alfalfa fields. Unlike other mice, they almost never enter houses. They may be mistaken, however, for another small mammal that does get into houses: the short-tailed shrew. Though they may look the same, they are not even cousins. The shrew is an insect-eating mammal, a close relative of the common mole.

The runway evidence of voles’ presence is most obvious in the early spring as snow cover disappears. However, close inspection of grassy areas during the growing season may also reveal less obvious runways in the turf, sometimes including the top 2-3 inches of soil. There are often numerous entrances to this runway system and the vegetation is often closely clipped or dead in well-travelled runways. The runways are 1-2 inches in diameter and typical mouse feces may be found in them.

In addition to damage to turf, voles most often injure, weaken, and/or kill young trees and shrubs by gnawing at the bark and often girdling them completely. This most often occurs in the fall and winter but is not obvious until the spring.

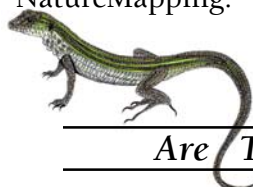
Lawn Snatchers!

The plant may partially leaf out and then suddenly wilt and die. Close inspection of the base of the plant will reveal girdling of the bark at or near the soil surface. Other chew marks at various angles up to 2-3 inches above the surface also indicate vole damage.

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Meet Todd Vens

Todd Vens is a (relatively) new, half time NatureMapping employee. He is managing the NatureMapping web site and database. Todd comes to us from the world's largest crop insurance company, where he worked as a web publisher. We are really quite lucky to have him on the NatureMapping team. Todd grew up on a farm in eastern Iowa. He often recalls fond memories of this experience: "Yes, I have fond memories of this experience." Not having gotten enough of this bucolic existence, Todd and his wonderful wife moved to an old farmstead in rural Boone Co. where they have developed their own special rapport with the local wildlife. Todd has had much involvement with many conservation issues and organizations, and we think that he will be a great asset to NatureMapping.



Six-lined Racerunner

Are These Your Sites?

Over the past few months, some monitoring sites that were entered did not contain a NatureMapper ID Code. Setting your browser to "Block All Cookies" causes this. Contact Todd to find out how to keep this from happening in the future. *Please contact Todd to let him know if any of these sites are yours.* We don't want to delay your progress as you monitor your sites.

Your Data is Important

Fewer than half of those trained in Iowa NatureMapping submit data. Some say they don't submit because they don't see anything interesting. Others of you just haven't gotten around to it. Don't feel bad. But remember, your data is extremely important for the understanding of Iowa's wildlife. No matter how common the wildlife you see, all of it is important. If you are having problems submitting your data, please let us know. We will work with you to find alternatives.



Western Harvest Mouse
and Western Hognose Snake

NatureMapping Advisory Committee

Iowa NatureMapping has the good fortune to be associated with the following people, who have provided their insight and experience in natural resources and education to make NatureMapping successful:

Doug Harr

IDNR Wildlife Diversity Program

Barb Gigar

IDNR Aquatic Ed Program

Mark Edwards

IDNR AmeriCorps

Diane Ford-Shivvers

IDNR Keepers of the Land

Jerry Keys

County Conservation Boards

Kevin Kane

Iowa GAP

Todd VonEwegen

Iowa Conservation Education Council

Ric Zarwell

Iowa Audubon

Paul Bartelt

Waldorf College, Biology Department

Jim Ayen

Iowa NRCS

Rich Leopold

Iowa Environmental Council

...Continued from page 5

As with most wildlife damage management, a combination of techniques leads to the most effective program:

- Reduce cover by mowing. In turf areas, including lawns, golf courses, orchards, and parks, vole populations can be kept to a minimum through regular mowing. Though the grass tunnel systems are evident in the spring in many turf areas, as soon as mowing begins, the animals must retreat to areas of deeper grass in order to survive. Mowing exposes them to heavy predation. Occasional mowing in areas adjacent to turf areas will also reduce cover and expose them to predation. This is recommended, however, only in areas of high vole populations.
- Exclude voles from around trees and shrubs by installing 1/4-inch mesh wire cylinders around young trees and shrubs. These should extend, where possible, into the top 1-2 inches of the soil. Pre-emergent herbicides used around the base of woody plants prevent voles from finding food and cover there. Mulches, if used around such plants for moisture retention, should consist of gravel or cinders whenever possible. If softer materials, like bark and wood chips, are used, they should be scraped back from the tree during the fall and winter months.

If you insist on reducing the vole population, trapping is the most effective method. For most lawn areas, common wooden mouse snap-traps, baited with peanut butter (or a peanut butter and rolled oats mixture) and placed along the runways at right angles to them can quickly reduce vole populations in a matter of a few days.

***Comming soon!
A new look to the Iowa
NatureMapping web site.***

Field Studies Offer Unique Opportunities For A-W Students and Staff

By Megan Dirks, Sarah Kleihauer, Carol Kleihauer, and
Angela Kern

The Akron-Westfield High School Science/Math staff offer many opportunities for students who have an interest in the natural sciences to participate in hands-on field studies during the year. Past studies have included, Cricket Frog Survey of Union County, South Dakota, for the South Dakota Fish, Game, and Parks Department, and Small Mammal Survey of Mount Talbot in Stone State Park for the Iowa Department of Natural Resources.



2:00 a.m.: Students recording a deer mouse's measurements

Small Mammal Survey

The preparation for this project included the use of a GPS system to set up a base line grid to ensure the accurate spacing of sample quadrats for the live trapping of small mammals. Traps were organized in a twenty by twenty-five meter quadrat. Students learned to identify characteristics of various small mammals and to measure and record tail measurement, pad length,

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...Continued from page 7

and head-body length, along with recording tail color, body color, and species. During afternoon classes, all participants were introduced to and learned how to calculate relative abundance, density, and relative density.

From August 5-9, 2002, students and staff camped in Stone State Park and followed a tedious daily schedule. The trapping quadrat for the night was staked out starting at 4:00 p.m., followed by an evening meal. Then at 8:00 p.m. live traps were baited and set. Between 10:00 p.m. and 6:00 a.m. traps were checked in two-hour intervals. Any catches were measured, identified and pertinent data was recorded. After the final check traps were collected, repaired, washed, and left out in the sun to dry. Then it was off to breakfast and bed. At 2:00 p.m. lunch was served and two hour classes followed discussing data, problems with trapping techniques, and processing data.

This was the first survey of its kind in Iowa.



Cricket Frog in hand

Cricket Frog Study

The students and staff traveled to the back roads of Union County South Dakota. Stopping at each site, the GPS was used to get the latitude and longitude of each site that was predetermine for looking and listening to frogs and toads. The USGS Maps, Map of Union County, and the student's knowledge of area were used to construct a map of sites to listen for the frogs and toads.

We especially looked and listened for the Northern Cricket Frog (*Acris crepitans*). Staff and students listened to frog and toad identification tapes and read various articles on Cricket Frogs and many other amphibians so they would be easier to identify at the sites. Frogwatch and Iowa Frog and Toad Survey protocols were used.

The survey began on May 6, 2001 and ended June 26, 2001. The first Chorus Frogs were heard April 22, 2001.

The following are the toads and frogs were identified:

- Woodhouse's Toad, *Bufo woodhousei*
- Northern Leopard Frog, *Rana pipiens*
- Plains Spadefoot Toad, *Scaphiopus bombiformis*
- Gray Tree Frog, Family Hylidae
- American Toad, *Bufo americanus*
- Chorus Frog, *Pseudacris triseriata*
- Great Plains Toad, *Bufo cognatus* Cope's
- Tree Frog, Family Hylidae
- Bullfrog, *Rana clamitans*

While doing this study we traveled over 400 miles, listened for frogs and toads at 30 sites and identified 10 species of frogs and toads. Nine of the 30 sites containing Cricket Frogs were identified either by visual or audio identification. Also, at a few sites Cricket Frogs were captured in a net, photographed, and tape recordings of Cricket Frogs were also made.

Conclusions: The greatest number of Cricket Frogs were found in the river flood plain, farm fields lost to the floods in 1993 seem to have the greatest Cricket Frog population, and flooded ditches along dikes appear to provide a good environment for Cricket Frogs, and there are viable populations of Cricket Frogs in the Big Sioux River Valley in Union County, South Dakota.

***Name This Newsletter
Think this newsletter needs a
name? Send us your ideas.***

Stone State Park - Mount Talbot Small Mammals Survey Results

RELATIVE ABUNDANCE

Table 1. Woodland Area

Species (i)	Abundance (n _i)	Relative Abundance (P _i)
1 (White-Footed Mouse)	37	.521
2 (Deer Mouse)	34	.479

Table 2. Prairie Area

Species (i)	Abundance (n _i)	Relative Abundance (P _i)
1 Deer Mouse	1	.333
2 Prairie Vole	1	.333
3 Meadow Vole	1	.333

Relative Abundance (P_i) = abundance single species (n_i) / total of all species (N)

DENSITY

Table 3. Woodland Area

Species (n)	Density (d)	Species (m ²)
1 (White-Footed Mouse)	37/1125	.033
2 (Deer Mouse)	34/1125	.03

Table 4. Prairie Area

Species (n)	Density (d)	Species (m ²)
1 (Deer Mouse)	1/1500	.000667
2 (Prairie Vole)	1/1500	.000667
3 (Meadow Vole)	1/1500	.000667

Density (d) = #of individuals in one species (n) / total area sampled (A)

RELATIVE DENSITY

Table 5. Woodland Area

Species	Relative Density
1 (White-Footed Mouse)	.52
2 (Deer Mouse)	.48

Table 6. Prairie Area

Species	Relative Density
1 Deer Mouse	.333
2 Prairie Vole	.333
3 Meadow Vole	.333

Citizen Data Update

NatureMappers have been collecting data since 1999, and we have been analyzing it for some basic information. Below and on the 3-page insert, are summaries of the data that we think will be of interest to you. In the future, with the help of Todd Vens, we will be able to provide you a means of searching the database directly and pulling out your own data, among other things. This will allow you the chance to keep track of what you submit, and run some basic analysis on it. Please keep an eye on the NatureMapping web site for these changes.



Sandhill Crane

Compiled data based on all data collected up to February 26, 2003**

Table 1: Proportion of Monitoring Sites Where Monitoring Has Taken Place Relative to Total Number of Monitoring Sites

Total # of Monitoring Sites	690
# of Monitoring Sites With Reported Wildlife Data	482
% of Monitoring Sites With Reported Data	70%

Table 2: Proportion of Monitoring Sites On Public Land Versus Private Land

Total # of Monitoring Sites	690
# of Monitoring Sites On Private Land	463
# of Monitoring Sites On Public Land	227
% of Monitoring Sites on Private Land	67%

Table 3: The Proportion of Records of Each Wildlife Group Relative to the Total Number of Records Submitted By NatureMappers

Wildlife Group	# of Records Reported	% of Total Records Submitted
Reptiles	143	0.87%
Amphibians	444	2.71%
Mammals	1359	8.30%
Birds	14424	88.11%
Total	16370	100.00%

Table 4: The Proportion of Iowa Counties With NatureMapping Monitoring Sites*

Total # of Iowa Counties	99
# of Counties With Monitoring Sites	58
# of Counties Without Monitoring Sites	41
% of Counties With Monitoring Sites	59%

*See Table 5 included in the newsletter inserts for a complete list of Iowa counties with and without monitoring sites.

**See Tables 6, 7, and 8 included in the newsletter inserts for the complete lists of species that have been reported to NatureMapping.

Maps are included, which represent data in the tables (Figures 1, 2, 3, 4, and 5)

PROJECT A.W.A.R.E.

A Watershed Awareness and
River Expedition

Imagine if you will, canoeing through limestone bluffs on a beautiful spring day – sunny skies, calm water, and breathtaking scenery. The sound of paddles dipping gently and methodically into the cool waters, the mysterious but soothing songs of animal bachelors advertising their availability and willingness to secure an evening companion, and the rustling leaves dancing playfully in the breeze, all coming together in Mother Nature’s delicate orchestra. The ambiance generates a renewed appreciation and admiration of Iowa’s spectacular natural resources – resources that are often taken for granted and selfishly exploited.

Now imagine that what you just experienced occurred on the Maquoketa River during the first week of June 2003. Turn that dream into a reality by taking part in Project AWARE! This first-of-its-kind journey will take place from Sunday, June 1, to Sunday, June 8. Starting at Backbone State Park and finishing at Green Island Wildlife Area, the trip will span nearly the entire length of the Maquoketa River, focusing on watersheds and how they affect water quality. Participants on the trip are encouraged to pick up streamside trash, attend nightly evening programs, and have the time of their lives!

Participation in Project AWARE is open to all Iowa citizens. A limited number of canoes and associated equipment will be available for those who do not have access to such things, and support vehicles will be available to haul gear, shuttle people, and help ensure safety. Tent

camping accommodations have been arranged through Delaware, Jones and Jackson County Conservation Boards.

This seven-day, seven-night journey is not limited to only those who can attend the entire week. Project AWARE is a “come and go as you please” event. Registration is free, but it is required for safety and tracking purposes. An online registration form and information on Project AWARE will be available soon on the IOWATER Web site, www.iowater.net. In the meantime, if you have any questions please contact me.

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A trip down the Maquoketa River will be beneficial for everyone involved. The event will raise environmental awareness throughout the state, strengthen personal connections with Iowa’s natural resources, illustrate the power of volunteerism, and promote advocacy of the environmental ethic. The culmination of all of these components will help future generations of Iowans respect and honor the legacy they will inherit.

Please check out the Project A.W.A.R.E. web site at www.iowadnr.com/volunteer/aware.html

Submitted by Brian Soenen, IOWATER Natural Resources Interpreter



Red-winged Blackbird



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