

Introduction to Nature Journaling

THE
NURTURE
NATURE
CENTER



If you “train your mind to see deeply and with **intentional curiosity** . . .
the world will open before you;” — John Muir Laws



TODAY: Introduction to Nature Journaling

- Explore, observe, document
- Put together your own journaling kit
- Learn about documenting waterways

TOMORROW:

- Parents: feedback survey. PLEASE!

NEXT WEEK:

- Same time, same place, different room
- Flood Table
- Weather graphics
- Put together your very own "Go Kit"

Keri Maxfield, Art Director
kmaxfield@nurturenature.org

**EASTON AREA
watershed
explorers**

Join us for a fun mix of science, art, and exploration!

Saturday afternoons,
March 8 - April 5
1-2:30 pm

NURTURE NATURE CENTER

Free to Easton area children ages 8-12!

Parents and guardians welcome!



Saturday, March 8th, 1-2:30pm

What is OUR Watershed? (at Nurture Nature Center)

Join us as we learn about watersheds and how water flows through the landscape. We'll look at some maps of local watersheds and design our very own watershed scene with lots of fun materials and watch how "water" runs through it in the end.

Saturday, March 15th, 1-2:30pm

Water is everywhere – Global use of water and the Water Cycle (at Nurture Nature Center)

We'll follow a drop of water to learn about the water cycle and why conserving and protecting our fresh water is so important. This session includes a Science on a Sphere program, hands-on demonstrations and a water filtration activity.



Saturday, March 22nd, 1-2:30pm

Observing and Documenting Waterways/Nature Journaling 101 (at Nurture Nature Center) We'll put together our own journaling kits and look at creative ways to capture what you see and experience around the streams and river. Who lives there? What can you discover from your observations? We'll also learn about things that are important to look for in checking a stream's health.



Saturday, March 29th, 1-2:30pm

Focus on Floods (at Nurture Nature Center)

We'll look at river and creek flooding and how it has affected the City of Easton. Why does it flood here? We'll get 'hands-on' with the flood table and learn where we can view data that's collected that tells us the river height and predicts future flooding. Then, we will put materials together to begin to build our own emergency preparedness kit to help our family, pets, and neighbors during a flood.



Saturday, April 5th, 1-2:30pm (Raindate: April 12th)

Out in the Field: Observing and Testing the Bushkill Creek (Outdoors on the Karl Stirner Arts Trail) Meet at the Blue Bridge!

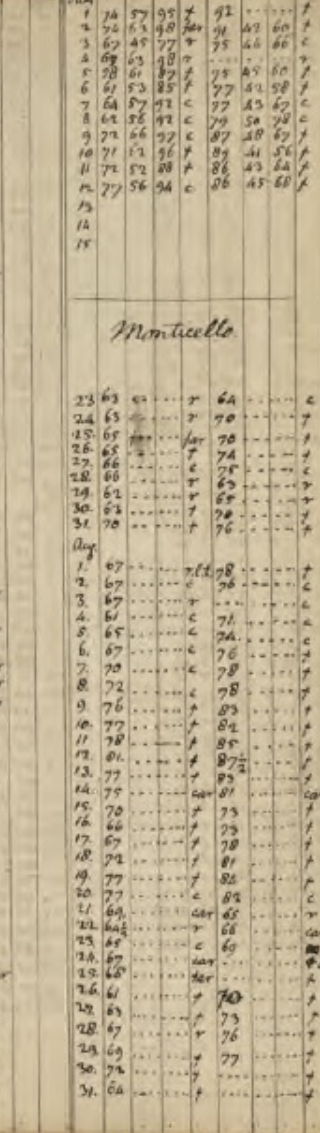
Let's try what we've learned about journaling outdoors, and work together to fill out some field notes and do some scientific testing on the water. A member of the Bushkill Stream Conservancy will tell us about what they do to help the watershed and all that call it 'home' stay healthy.

Registration required: <https://www.signupgenius.com/go/NNCwatershedexplorers>

Financial and other support for "Connecting Youth to Local Watersheds: A Placed-based Multi-disciplinary Watershed Education Program" has been provided by the Department of Environmental Protection's Environmental Education Grants Program.



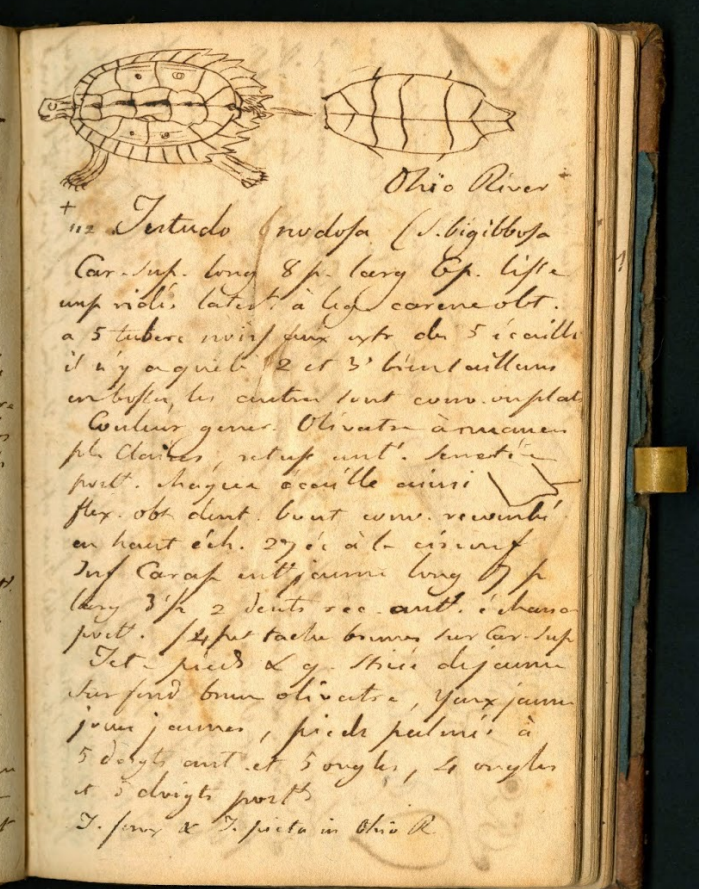
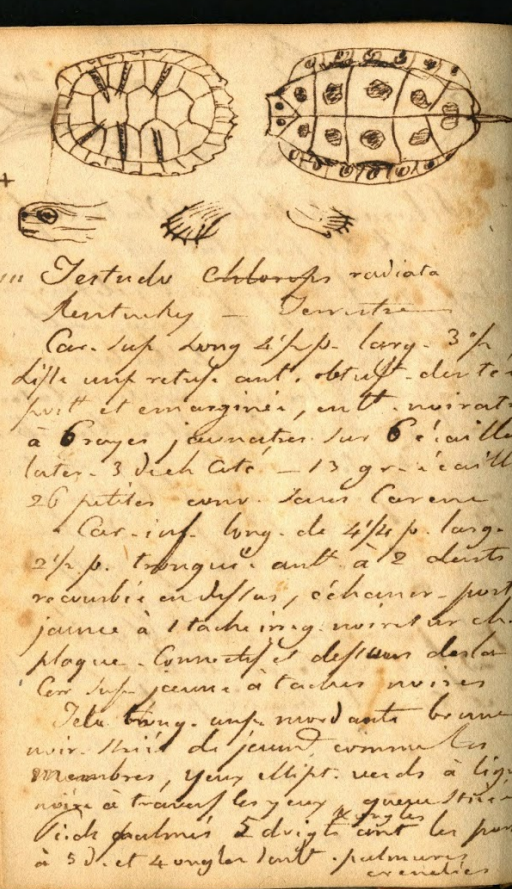
Space is limited.
Sign up now to
reserve your spot.



Diary of the Weather, Fort Armstrong, Rock Island
July 1820

Date	Thermometer			Course of the Wind	Weather	Remarks -
	7 A.M.	2 P.M.	9 P.M.			
July 1	80	96	80	S. E.	Fair	Arrived at Fort Armstrong on the 9 th of the Present Month. From this commencement till my arrival I was kept by Major Manton Commanding Officer.
2	78	90	81	Do	Do	
3	80	80	70	Do	Cloudy	
4	66	80	72	S. W.	Do	
5	70	82	78	Do	Fair	
6	71	84	76	Do	Do	
7	77	90	82	S. W.	Cloudy	
8	77	92	82	S. W.	Fair	
9	79	96	80	S. W.	Do	
10	78	96	84	S. W.	Do	
11	81	84	84	W. S. W.	Cloudy	
12	80	90	71	N. W.	Do	
13	58	78	67	N. W.	Fair	74.16 - 06.77 - 75.50
14	58	78	68	N. W.	Do	
15	68	90	70	E. + S. E.	Do	26.77 78.84
16	71	86	72	S. E.	Do	
17	78	90	82	S. E.	Do	
18	78	90	73	S. E.	Do	
19	76	88	74	S. W.	Do	
20	72	90	78	N. E.	Fair, S. W.	
21	78	80	72	W. S. W.	Do	A violent Hurricane on the 21
22	70	88	76	S. E.	Fair	
23	78	94	84	S. E.	Do	
24	78	90	78	W. S. W.	Do	
25	80	90	80	S. W.	Do	
26	78	92	76	South	Do	
27	79	90	78	West	Do	
28	76	86	73	N. W.	Do	
29	68	73	70	N.	Do	
30	70	77	72	Do	Do	
31	70	80	68	S. W.	Do	

W. McMillan S. M. 57



THE MIDLAND NATURALIST:

THE JOURNAL OF THE
ASSOCIATED NATURAL HISTORY, PHILOSOPHICAL,
AND ARCHÆOLOGICAL SOCIETIES AND FIELD CLUBS
OF THE MIDLAND COUNTIES.

EDITED BY
E. W. BADGER & W. J. HARRISON, F.G.S.

"Come forth into the light of things,
Let Nature be your teacher."
Wordsworth.

LIBRARY
NEW YORK
BOTANICAL
GARDEN

VOLUME I.
1878.

London: Hardwicke and Bogue,
192, Piccadilly.
Birmingham: Cornish Brothers,
37, New Street.

WORTHINGTON SMITH DEL ET SC



454 JOURNAL OF HORTICULTURE AND COTTAGE GARDENER. [December 8, 1865.
CEPHALOTAXUS FORTUNEI AND CEPHALOTAXUS DRUPACEA.

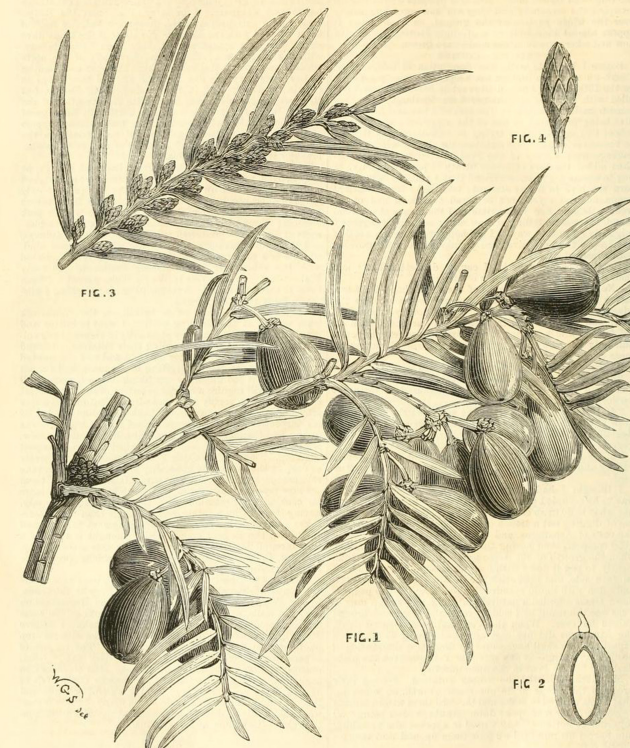


Fig. 1. Female plant of *Cephalotaxus Fortunei*.
Fig. 2. Section of fruit.
Fig. 3. Male plant with its inflorescence in the
axils of the leaves.
Fig. 4. Male catkin magnified.

Among the very many beautiful plants, for the introduction of which into this country we are indebted to the skill, enterprise, and good taste of Mr. Fortune, there are none which have more interested me, as an ardent admirer and extensive cultivator of hardy evergreen trees and shrubs, than the two species of *Cephalotaxus*, of which I now have the pleasure of sending you fruit-bearing specimens. One of these is very appropriately named after its talented introducer, "*Cephalotaxus Fortunei*," and the other "*Cephalotaxus drupacea*." Some confusion existed on the first appearance of these remarkable plants, the former having been rather hastily

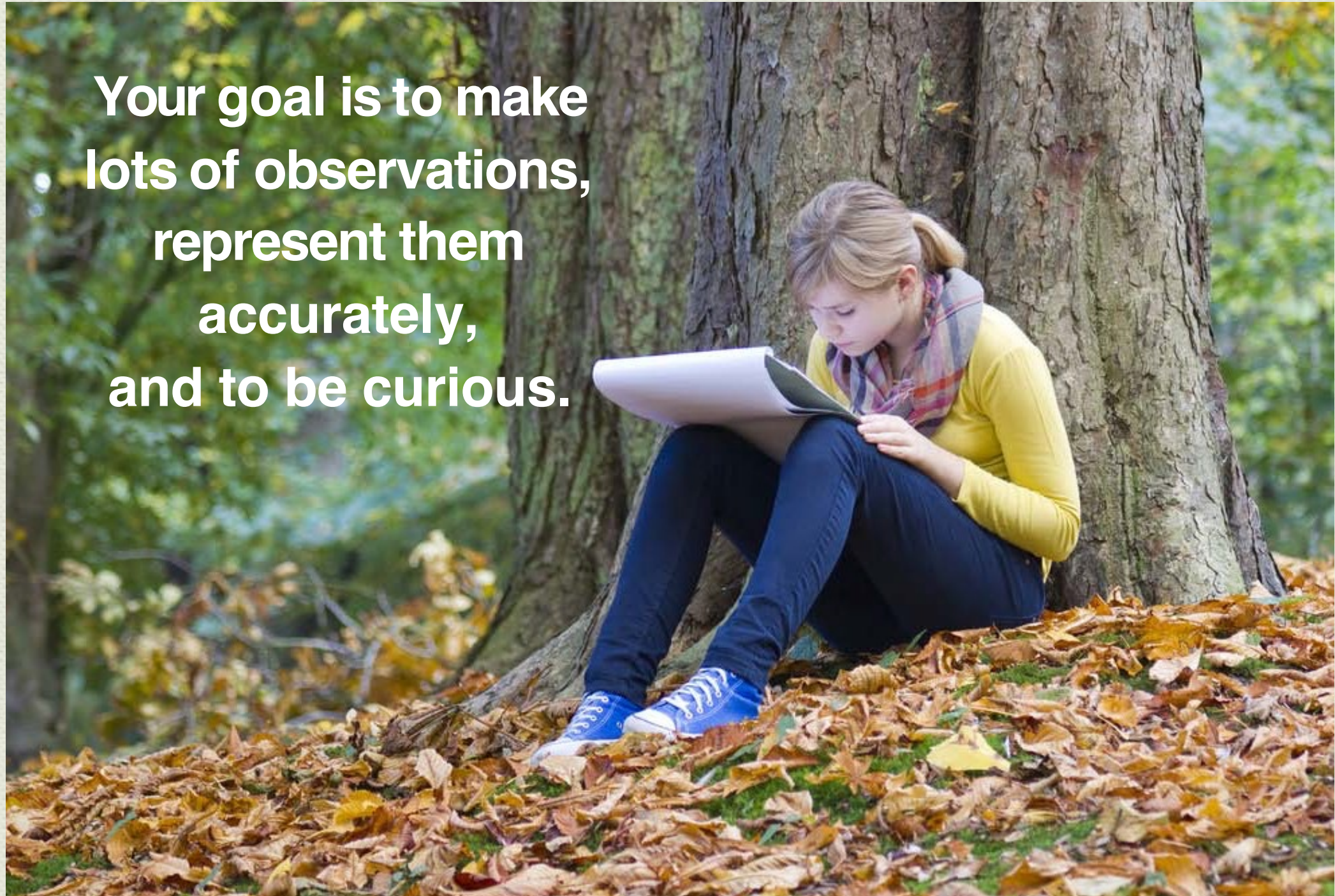
Images from the Biodiversity Heritage Library



Nature Journaling

Intent - observation, discovery, documenting nature and your experience with it.

- Your goal is to make lots of observations, represent them accurately, and to be curious.

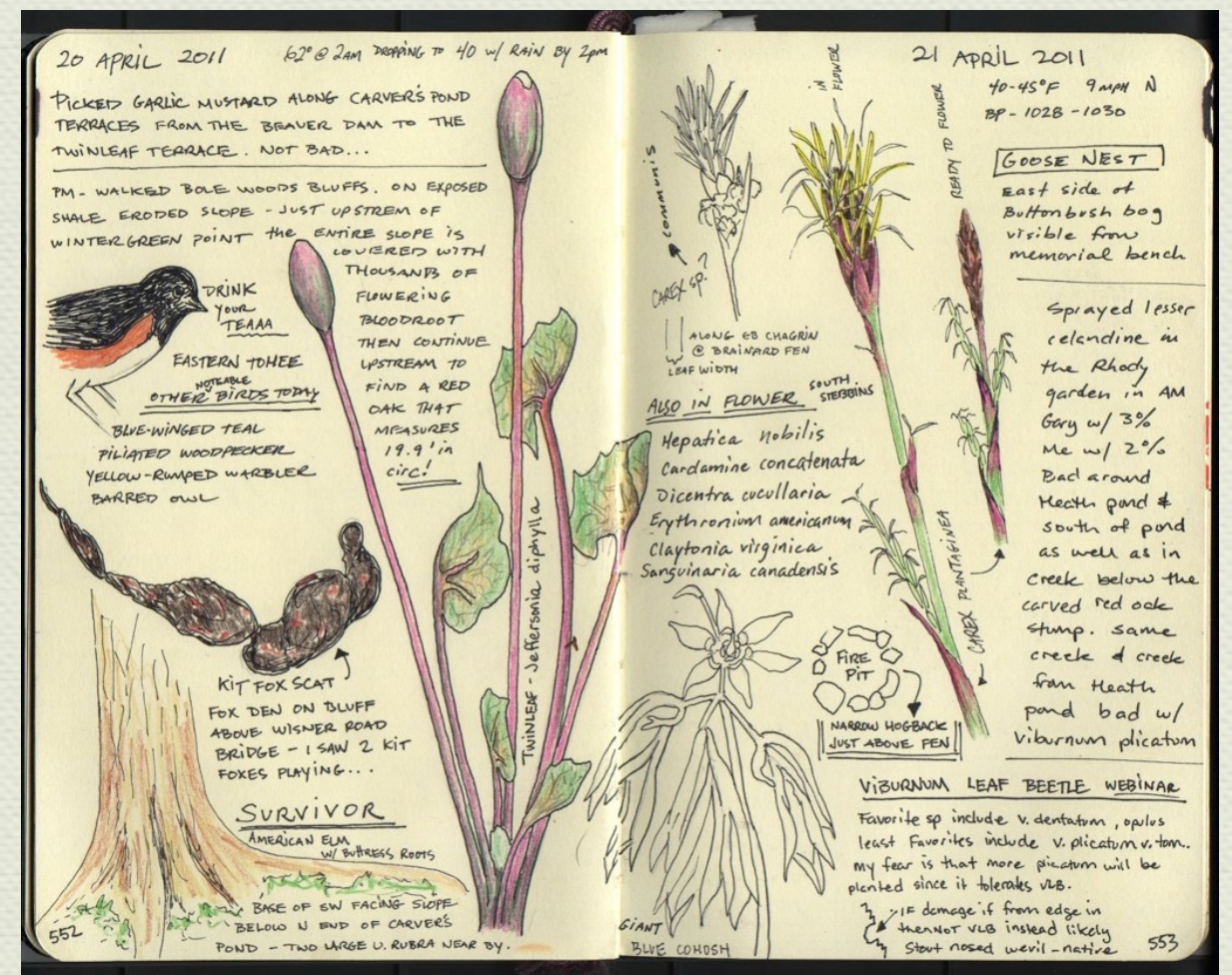
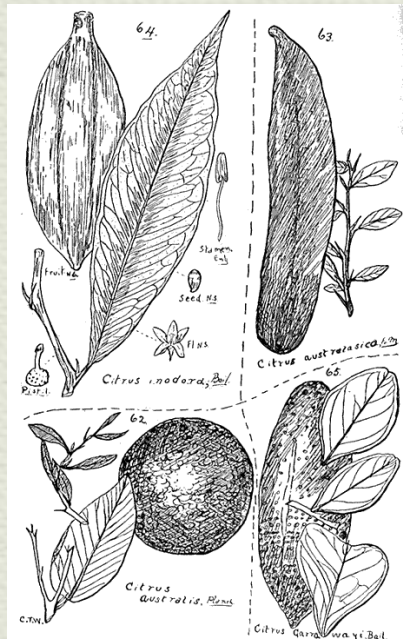


Nature Journaling

Intent - observation, discovery, documenting nature and your experience with it.

Ways of documenting and finding your own strengths:

- Technical (scientific data)
- Language
- Visual
- Aural

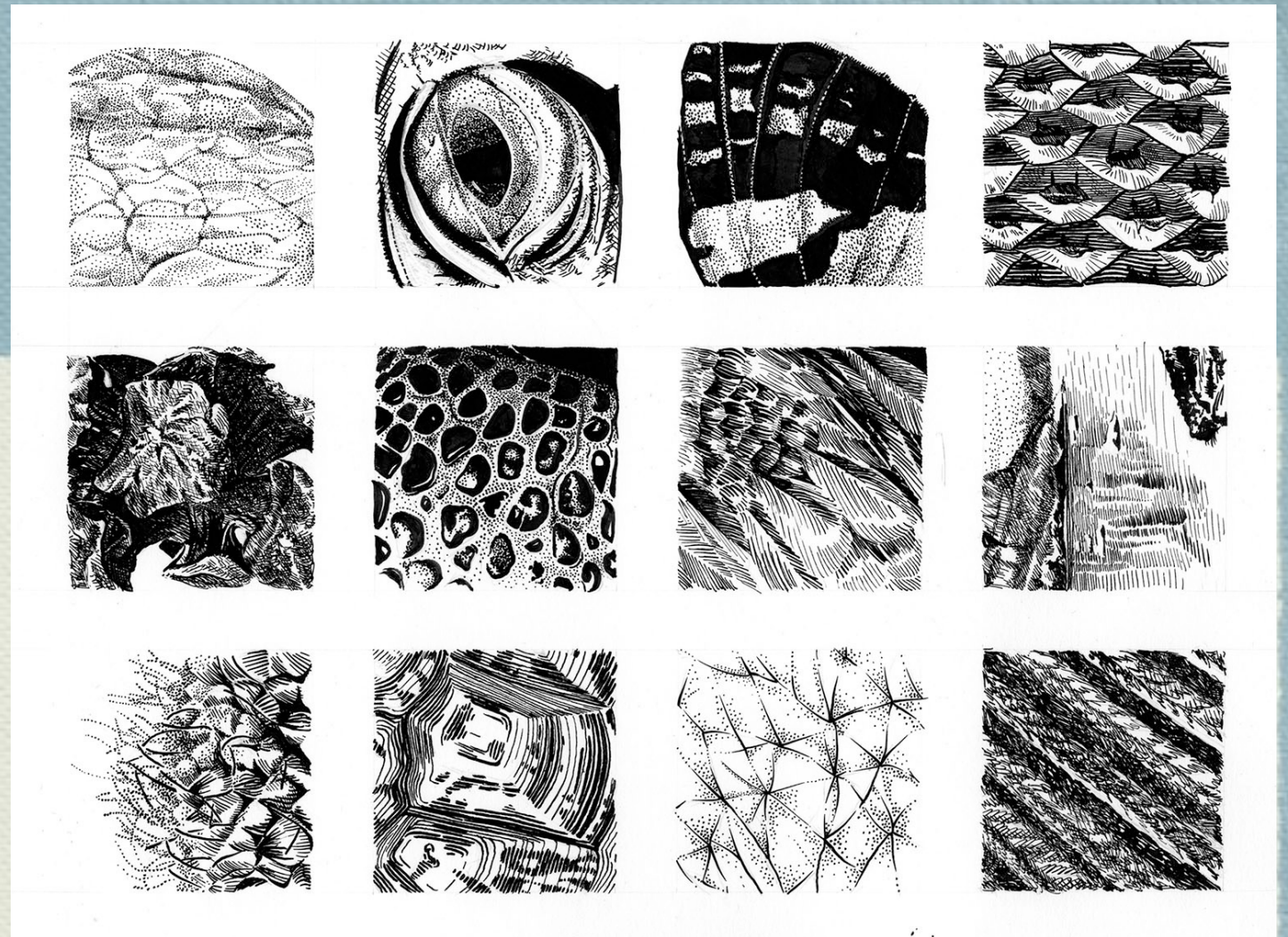


Where you strike a balance reflects your own interests and your own personality.

It is important to use all your senses to observe nature.

Quick Exercise 1 : Observing a hidden object.

This exercise can be used to emphasize observations made through touch.



**Inside this bag is a natural object that is safe to touch.
Spend a minute feeling the object inside. NO PEEKING!**

3 minutes: WORDS

write down as many words as you can to describe the object as you feel it.

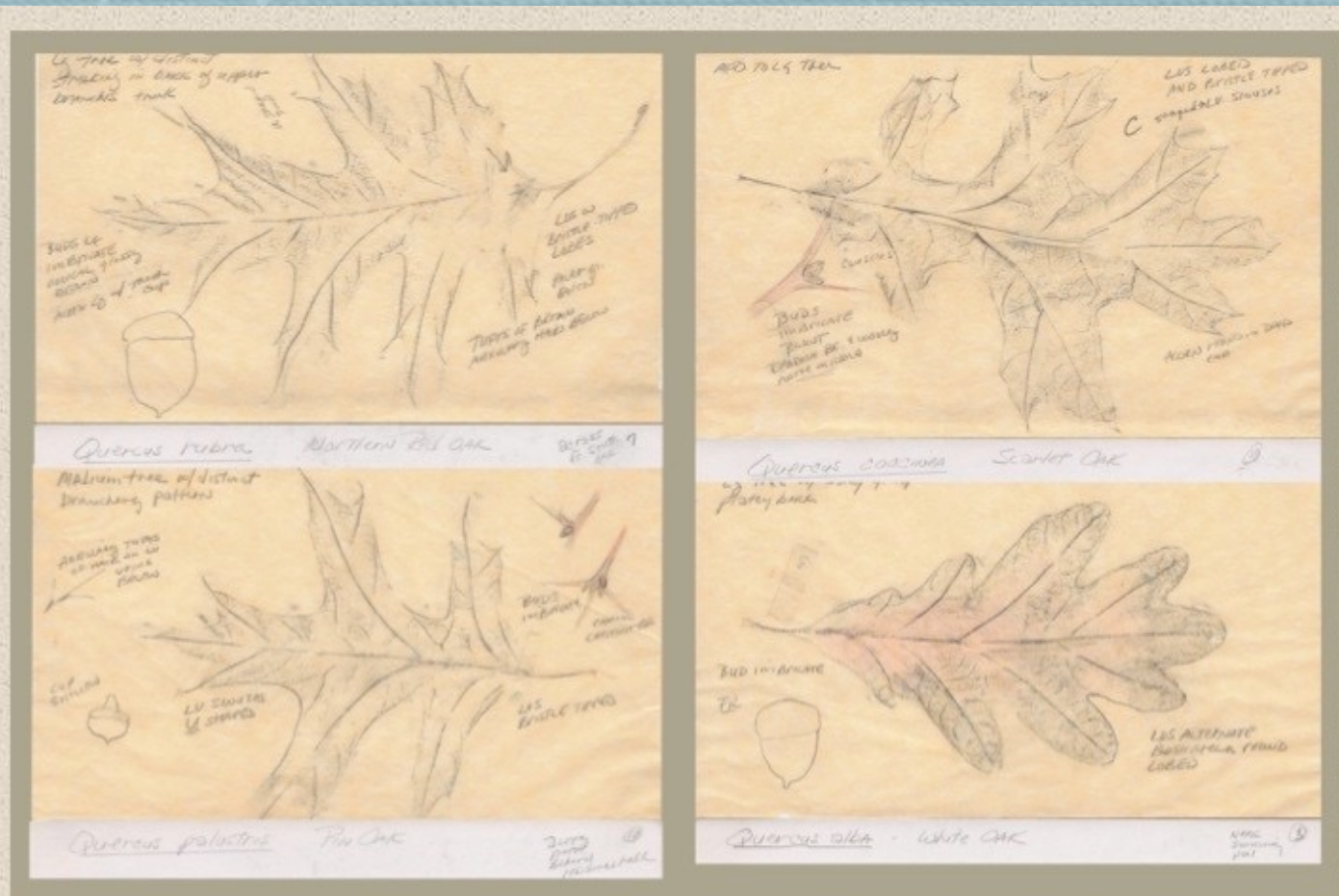
3 minutes: SKETCH

Using lines, shading, or marks on paper, draw what you feel.

When you are told to, open the bag and look at the natural object, what words or details would you add to your notes?

Building your observation skills takes time and practice.

Quick Exercise 2 : Capturing the details



Journaling Woody Plants - Leaf rubbing and sketching

Your goal is to make observations and to represent them accurately.

The longer you look, the more you will notice.



Each person receives one leaf.

5 minutes:

Carefully observe your leaf. Make a true-to-size sketch and label or take notes about your leaf.

Break –

5 minutes to finish

Building your observation skills takes time and practice.

Quick Exercise 2 : Capturing the details

What might be other clues that would be helpful in telling one leaf from another?

- broken off pieces or holes
- differences in coloration
- numerical count of things like pointed edges or lobes
- details on both sides of the leaf, weird curves or bumps
- did something take a bite out of this leaf?



Why?

Closely observing and understanding nature - its designs, its patterns, and connections can lead to innovative solutions and increased resiliency in our changing world.



Biomimicry - designed from nature.

“what in the natural world has already solved what I’m trying to solve?”



Inspiration for velcro

Biomimicry - “Small” Architectural Inspiration



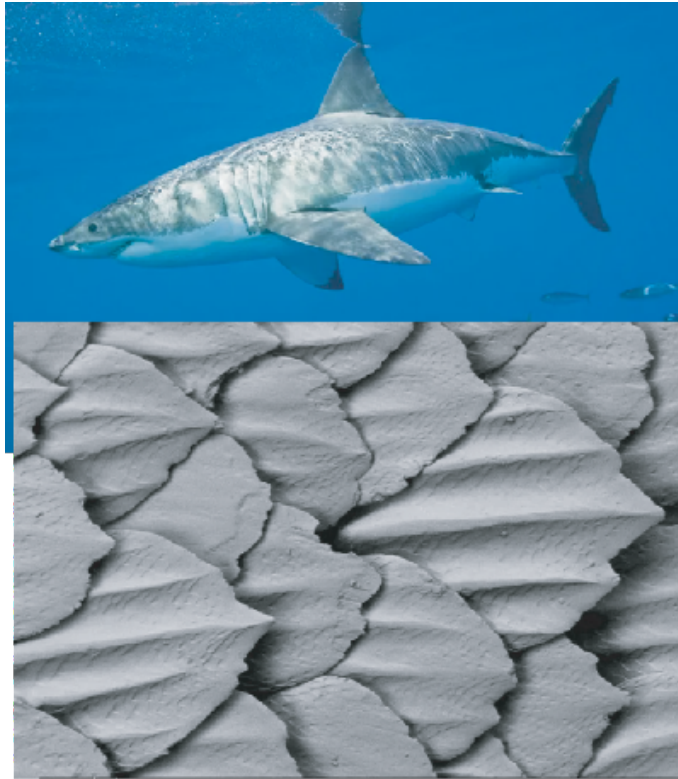
Bagworm moth caterpillar



Caddisfly







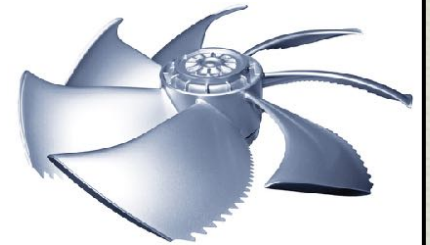
Shark Skin

Olympic Swimwear



Owls

Low Noise Fans



Dust-Repellant Coating
for Spacecraft



Woodpeckers

Shock-absorbing Bike Helmet



Lotus Leaves

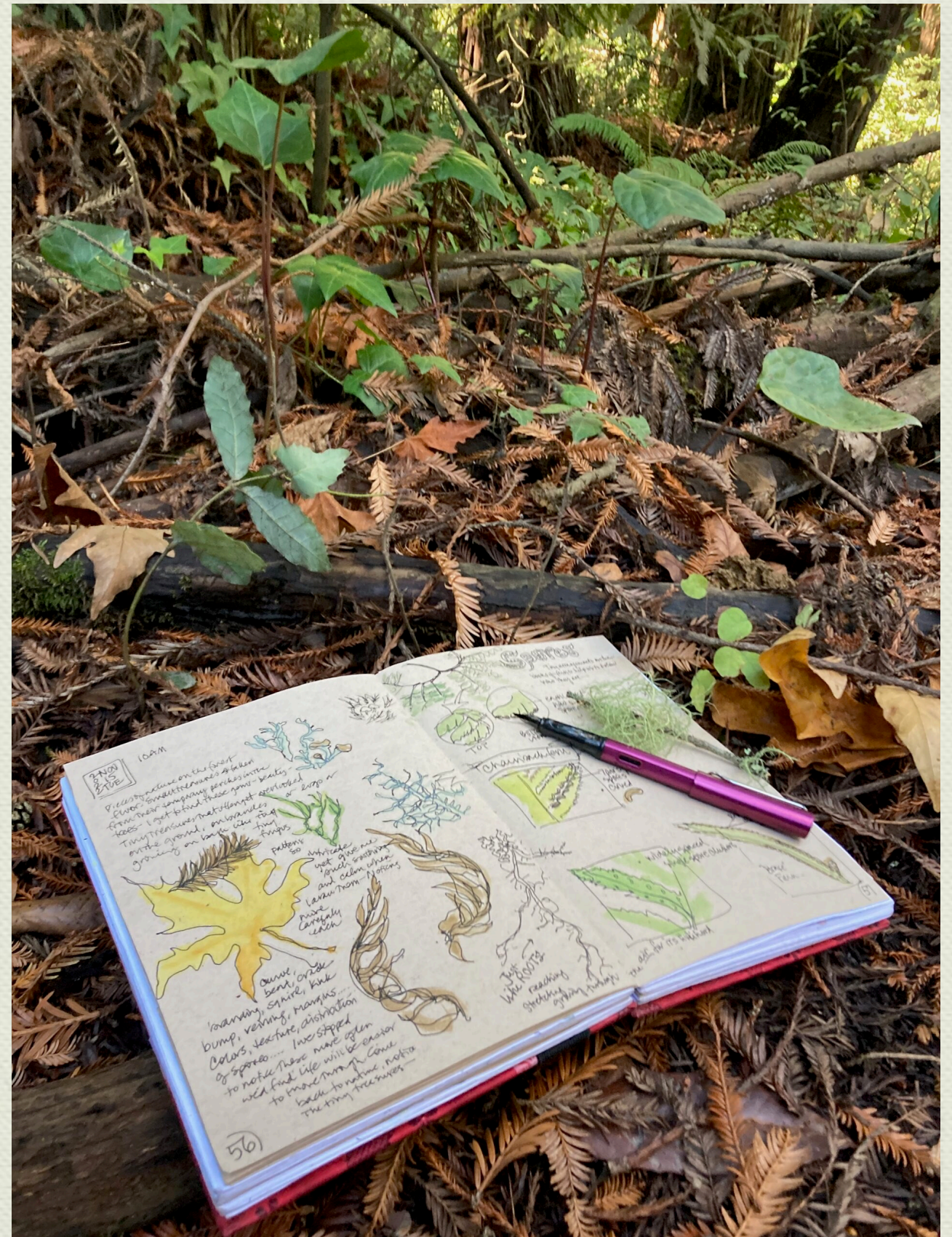




Getting Started

- Start with a book of scrap paper or inexpensive blank notebook
- Carry simple tools:
 - Pencils (graphite and colored)
 - Crayon
 - Ruler
 - Small magnifier

Find Your "Sit Spot"



A "sit spot" is a comfortable spot that narrows the focus of observation to a small area that you can return to again and again allowing some familiarity and to see changes over time.



Open your journal to the first page.

You will begin each journal entry by marking down by noting the time, date, and location in the upper left corner.

In the upper right corner make note of today's weather.

Practice describing the weather in different ways.

How is the weather affecting what you are observing?

You can write the answers to the following questions:

First, how cold is it? Hot, cool, mild, freezing

Is it still or windy?

Does the air seem dry or humid?

What about the clouds? Can you draw them?

What are you wearing to go outside? What is your mood?

*Close your eyes and use your other senses to smell and hear what is around you.
What does the weather feel like?
Do you hear traffic, bird calls or the wind?*



Backyard
9/24/18
☀️ 2-4 PM
Cool + 48°
Breezy 48° F
Good Day!
Lots of Birds.
and some buds.

November 23, 2018
Cool and cloudy
temp: 28°
barometric pressure: 30.06
humidity: 71%
dew point: 33

Friday 10/16/2020 - cabin on the Nizina
☾ waning 0747 A → 0644 P.
☀️ 0818 AM → 0615 PM
○ clear = light fog
burning off
27°/11° Brrr! Eiver
N 61.37°
W 142.75°
1468'
Big Blue
ishere
fresh snow

Looking northeastward.
A rainy, cloudy, day.
February 16, 2017, 3 PM.
From Jean Overman's home.
Snow on the hills clearcuts.

12.13
2009
☀️
80°F

Gardens Park

Scrub Jay
Feather



We saw some kind of strange bird flying. It looked like a hawthorn because it had a white stripe on its wing. It was a loud squawk.



Plumbago
auriculata



Western
wallflower



Eucalyptus
nut

We found a bunch of bark lying on the ground from the eucalyptus trees. On the ground we found these round nuts with a cross or X in the middle. We found three of them.

unknown
white
wildflower



acorn



We saw some wild blackberries. They are like raspberries and they turn blue when they are very ripe but before that they are red. Only a couple were blue and the rest were red.

We also found a 3 or 4-inch long stick covered in little soft dots. I found several in spiders' webs.

Gardens Park

There was a strange noise we heard that sounded like a bird, but we didn't see it. We saw a small bird, but it probably wasn't from that.

There were two squirrels racing around a tree when they saw us, they froze. They were going upwards and around.

There were holes from gophers there but we didn't see any. Most of them were big. Some of the low bushes had flowers.



Eucalyptus
bark nut



acorn

June 27, 2012 Leaf

leafy
cherry



Shale



leaf

Shale

Sunday - 10-25-2020 - Nemo

Waking 5:37pm → 12:00am
* 8:42AM → 5:48PM
• 26°/32° Snow in the rain

The star of today has been the snow. I notice it making the world quiet-absorbing sound. I smell damp things drying. The ground got cold but it is still slippery in places. Walking around in the snow I noticed snowshoe hare tracks, a raven, and some pine grosbeaks - a little flock of 3-4. Things were still pretty quiet out (tracks + sounds). Some grosbeak studies from photo later.



Pine grosbeaks

Monday 10-26-2020 - Nemo

Waking 5:41pm → 2:02AM
* 8:45AM → 5:45PM
• Very mixed, dynamic weather with a lot of wind. It rained and freezing rained last night. 46°/27°

We went for a trudge walk in the slush to the river today. It was actually a nice day - warm and quite sunny. But slushy. No tracks of note, except it was cool to see some of the squirrel tunnels that got exposed from the thaw. I thought they must have built them quickly considering it only snowed a day ago. I wonder if their underground homes/caches got flooded. Jack was doing a lot of mousing today. I wondered about them too. Are they prepared for a warm-rain event after the ground freezes? Do they lose food they cached? I brought back some of these silver berries to look at.



The berries are a rich protein snack.

old flower

People make beads from them

When I break the berry open it has a big, meaty, sticky, mustard-chambered color.

The seeds have pretty stripes when cleaned. I've seen them in bear scat and they remind me of sunflower seeds. I used to think the bear got into a bird feeder.

The bushes have lost their silvery leaves but still have clumps of berries. They look like olives. I love the way the flowers smell like perfume in early summer.

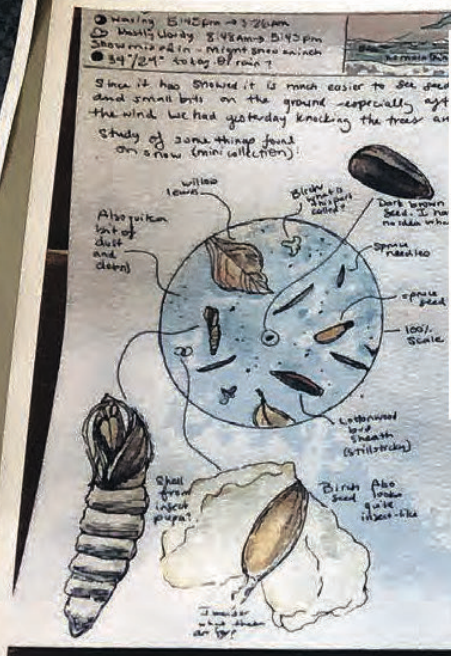
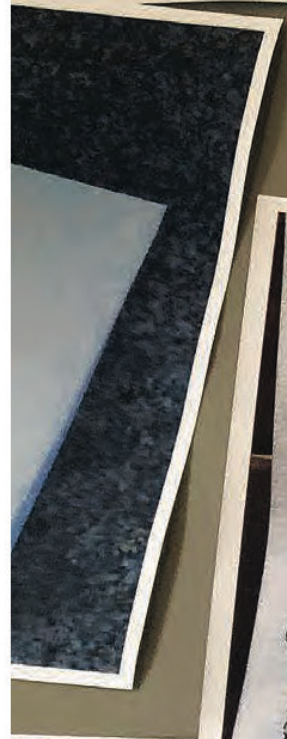
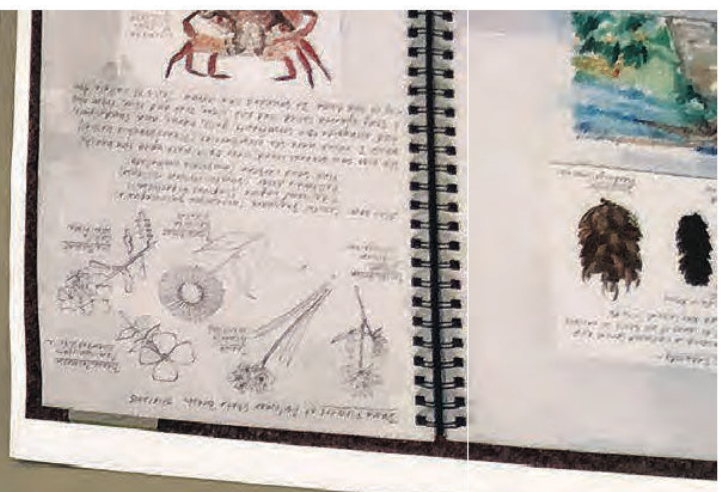


When I break the berry open it has a big, meaty, sticky, mustard-chambered color.

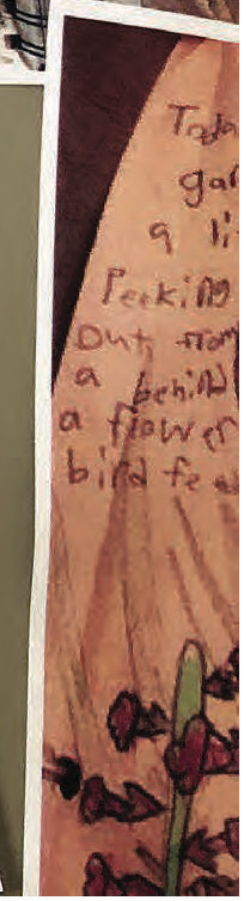
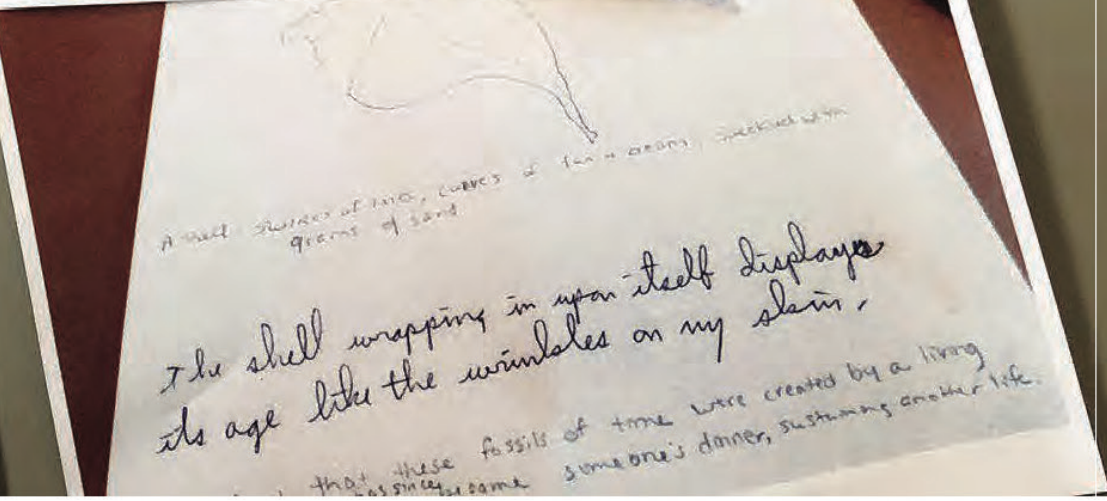
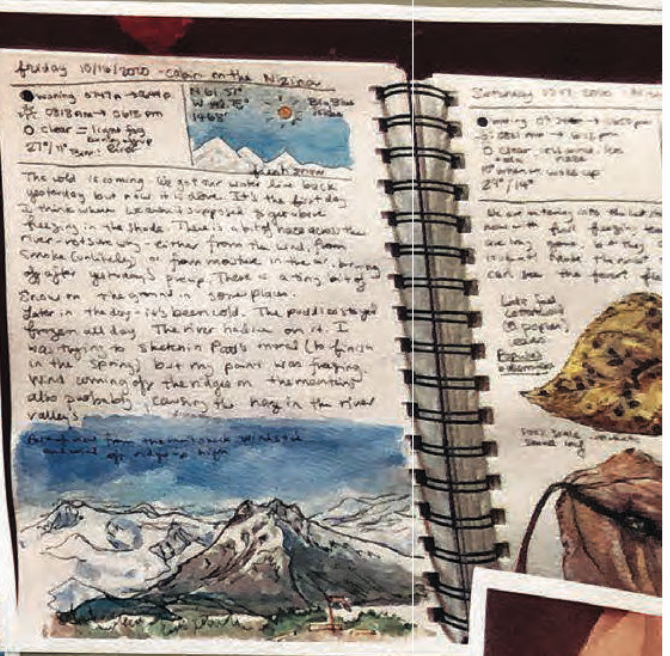
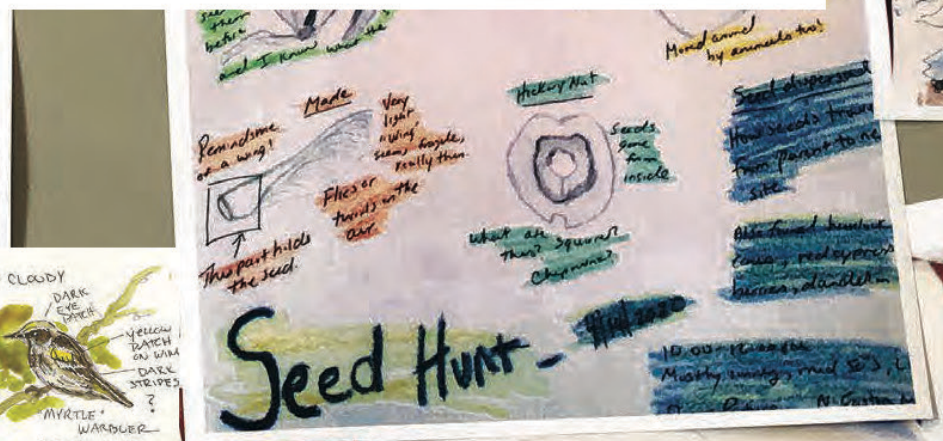
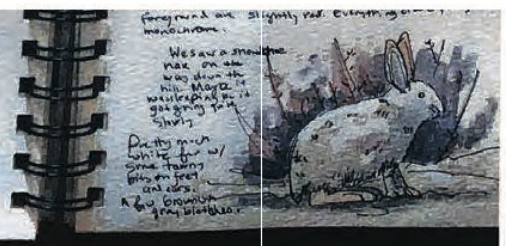


a branch stretching towards the sky.

10/26/20



After careful observation and documentation, formulating questions and investigating answers are key to meaningful experiences.



John Muir Laws prompts for deeper nature observation: **!?=**

I notice...

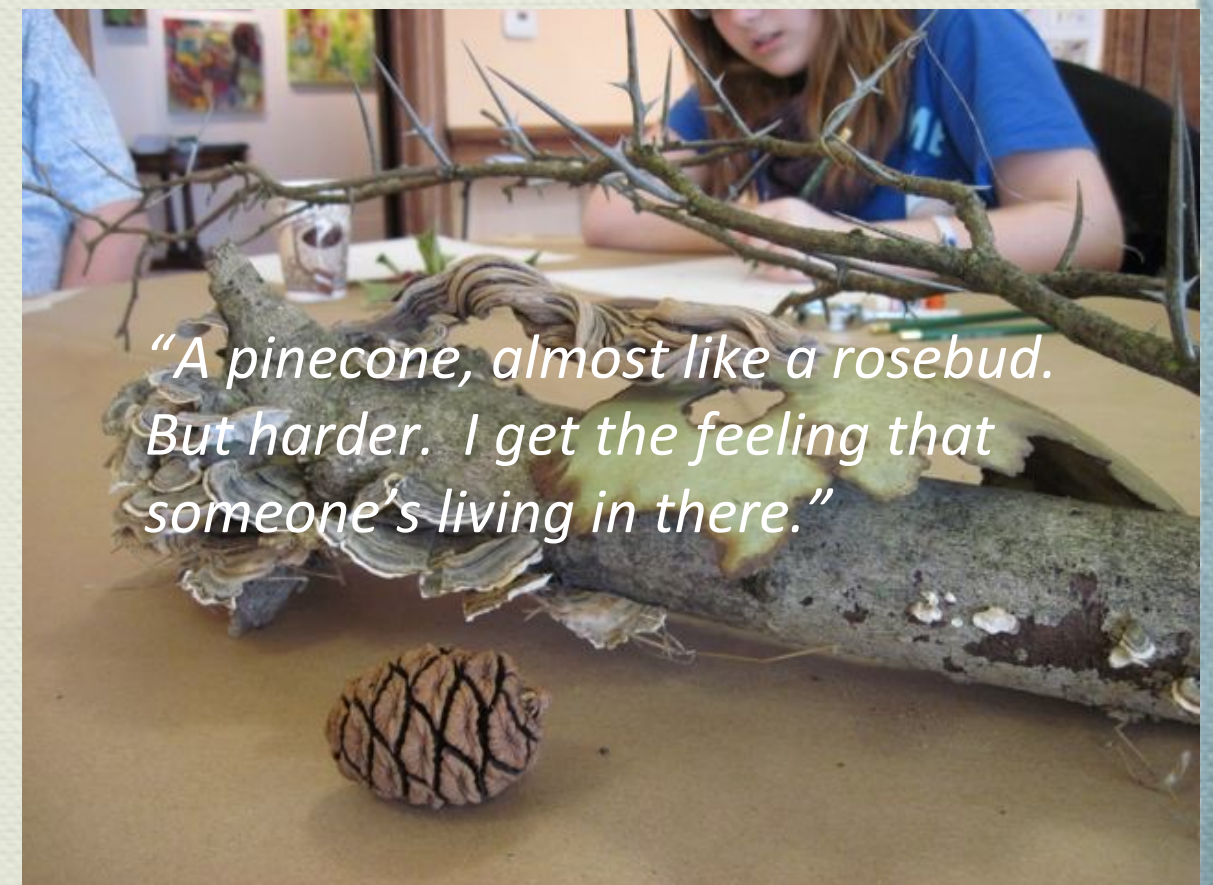
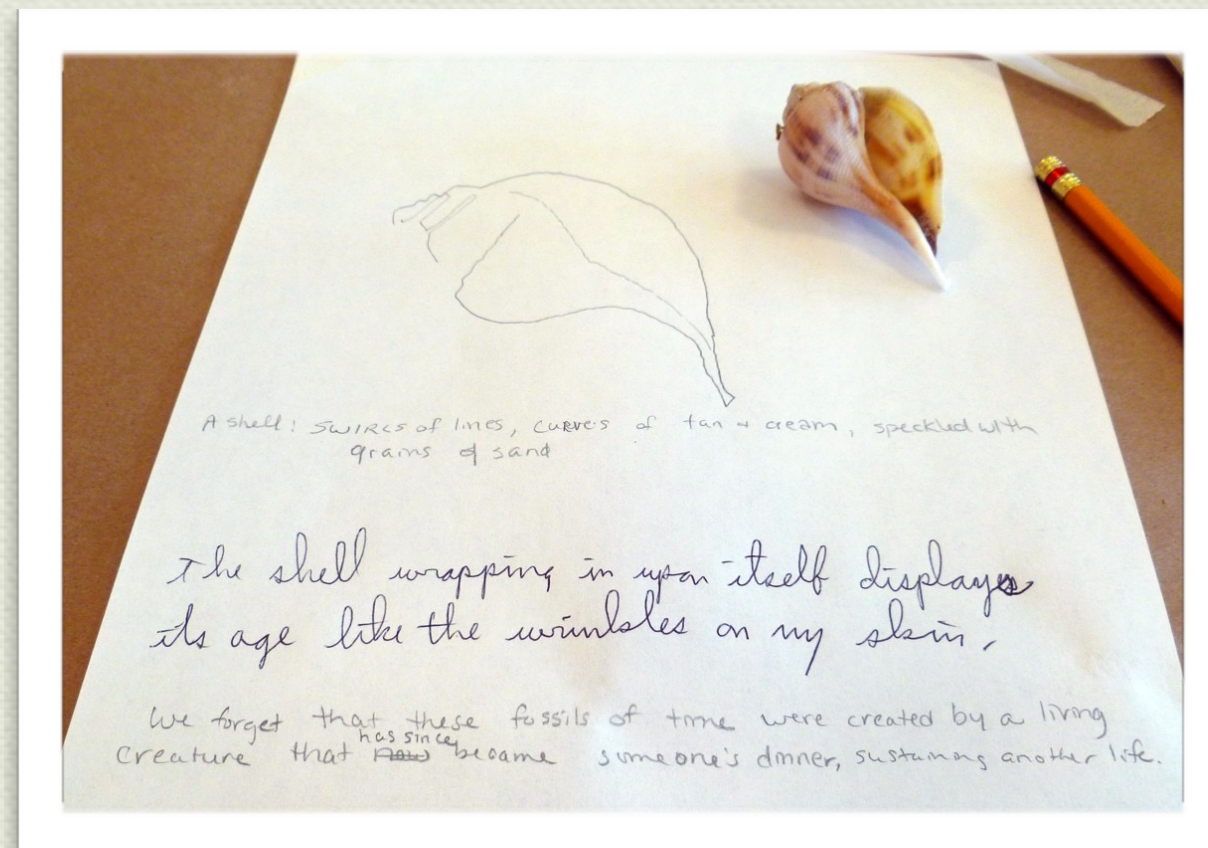
Anything that you observe (structure, behavior, color, interactions with other species -
By describing what you see, your brain also processes each observation more deeply.

I wonder...

As you describe your observations, be aware of any questions that occur to you. The point is not to answer them now but just to get them out there. Some of the questions you can answer with further observation. Some questions you will be able to research, or answer with further observation. All questions should be asked.

It reminds me of...

Ask yourself what this set of observations reminds you of. Try to come up with as many connections as you can. Go into your own network of memories and see how this new set of observations fits in.



I notice...
I wonder...
It reminds me of...

Quick Exercise 3 : Making Connections

I notice it prefers to be on its back & will wiggle to reorient itself.

I wonder if it will emerge soon. Is the length of its pupa period influenced by photo period?

It reminds me of a mummy & a raisin.



BUG
PARTY
10 November
2019

HORNWORM PUPA



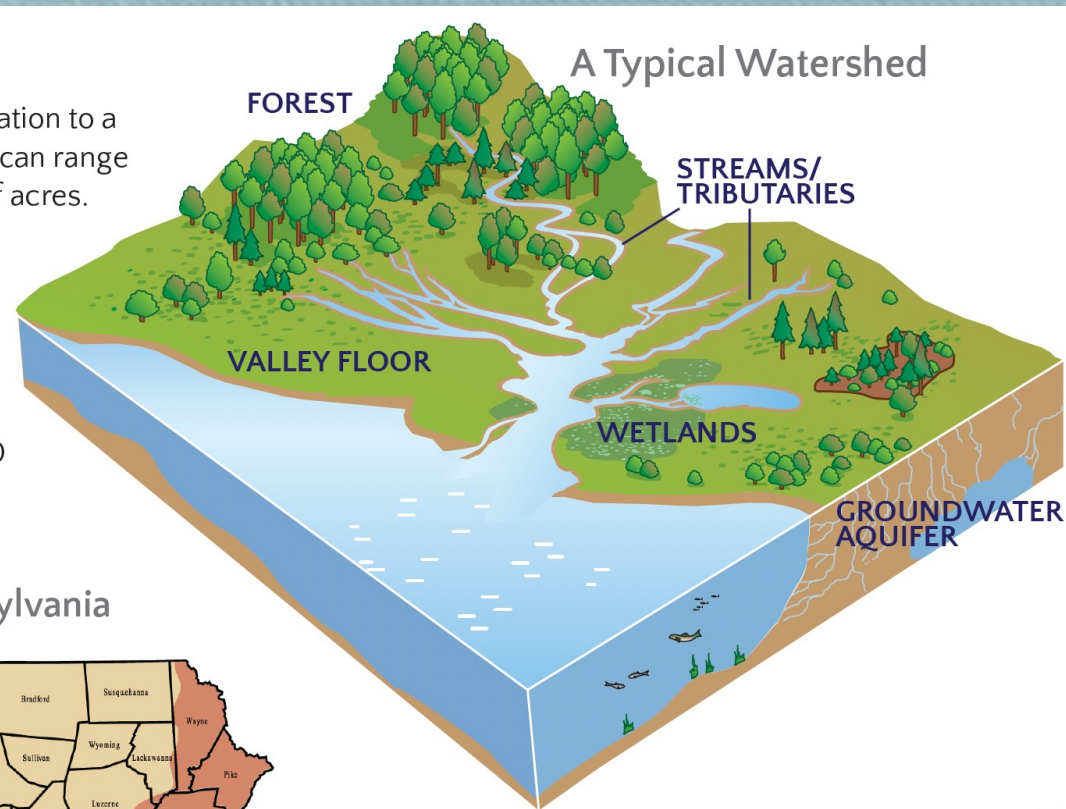
Journaling, Waterways, and Watersheds

A Watershed:

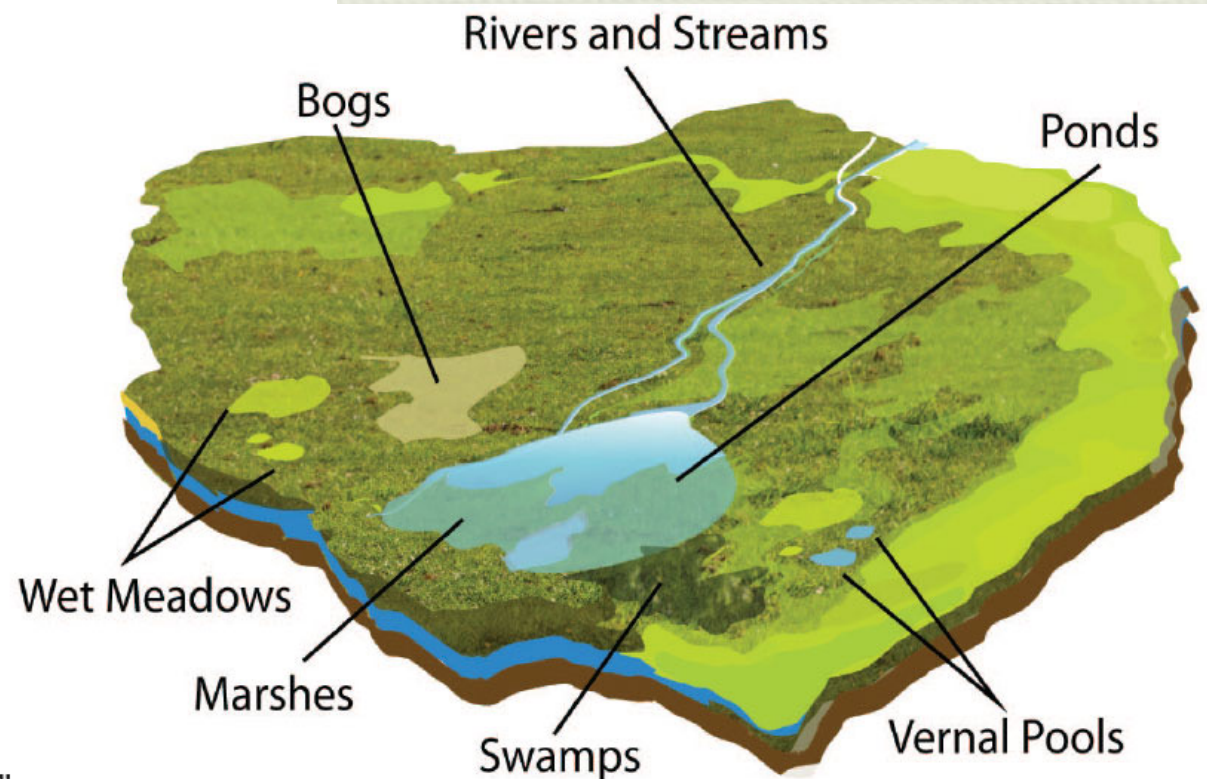
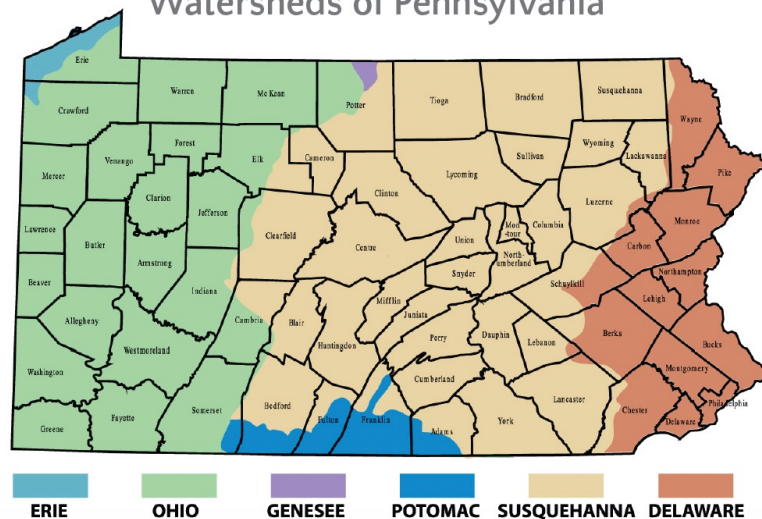
- Is an area of land that drains precipitation to a particular body of water. A watershed can range in size from a few acres to millions of acres.

Everyone lives in a watershed!

- The three major watersheds in Pennsylvania are: the Delaware, the Susquehanna, and the Ohio.
- Pennsylvania has more than 84,000 miles of waterways.

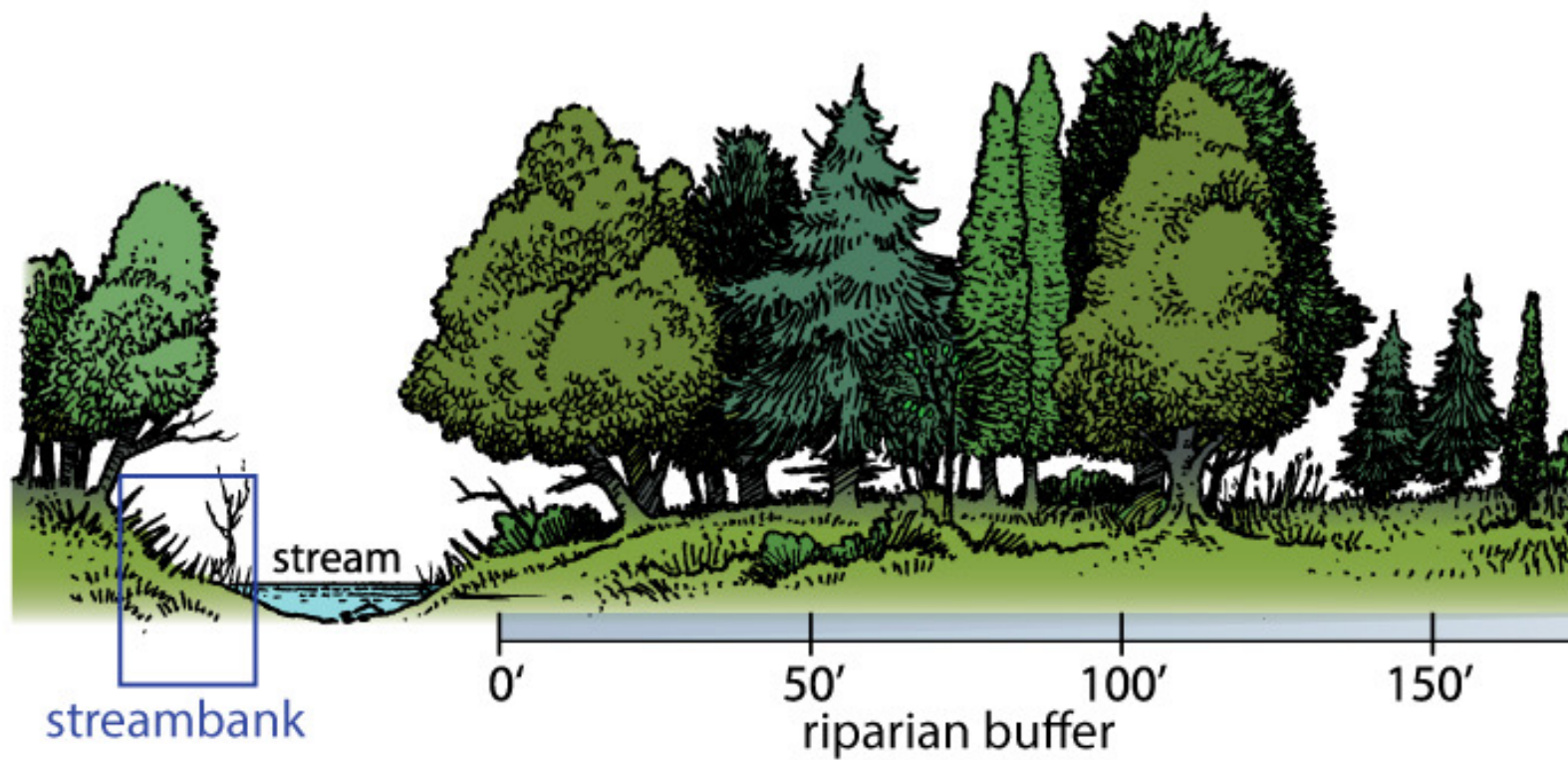


Watersheds of Pennsylvania



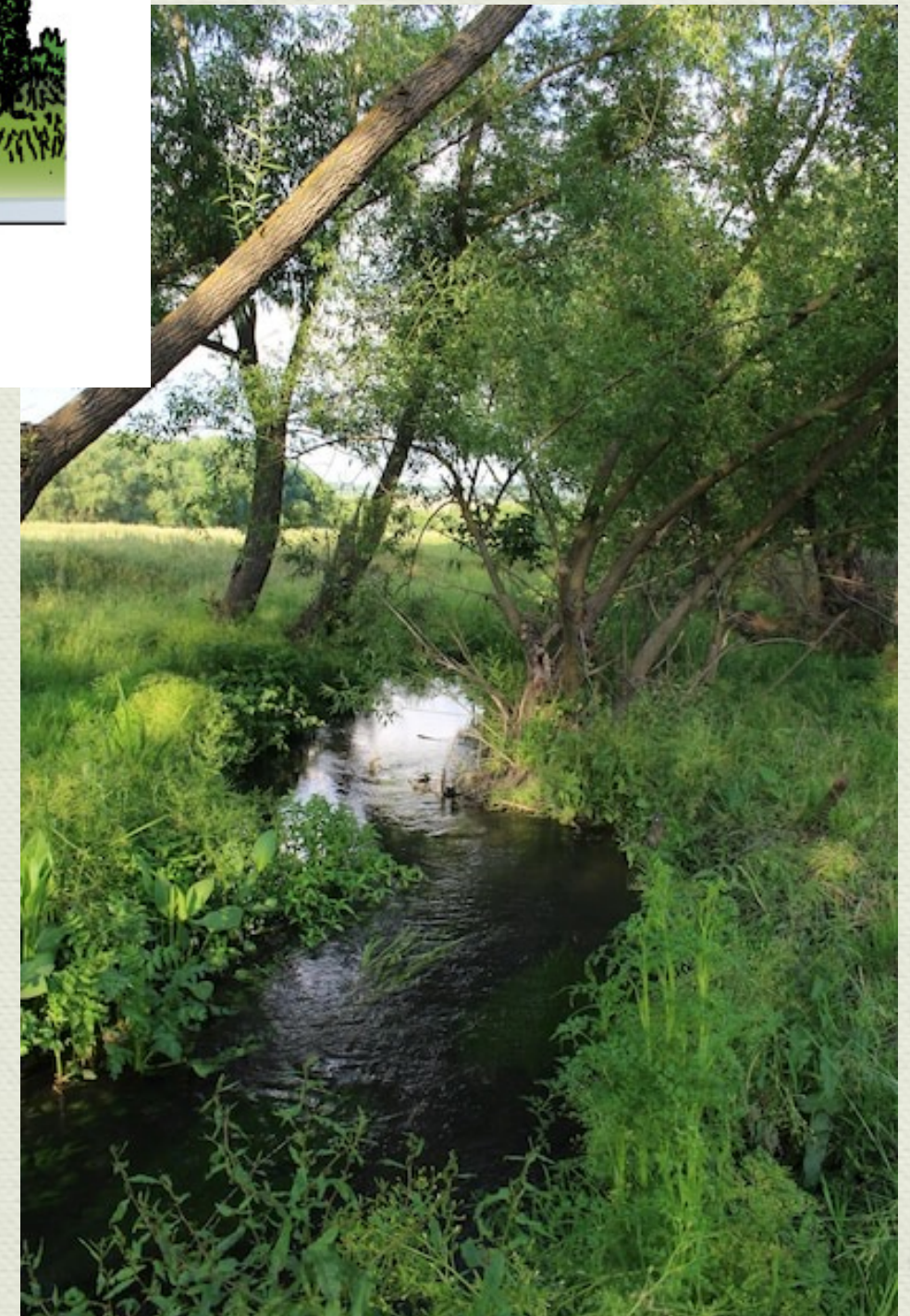
Watershed Explorers 1





Deep-rooted plants and trees along the streambanks hold it together and help prevent erosion.

Trees and plants provide food and habitat and help to keep the water cool.





Box turtle (*Terrapene carolina carolina*). Credit: Sally Ray

The presence of reptiles, amphibians, fish, birds, and insects can indicate that the habitat is healthy.



Jefferson salamander adult. Credit: Charlie Eichelberger



spring peeper. Credit: Charlie Eichelberger

Water Quality



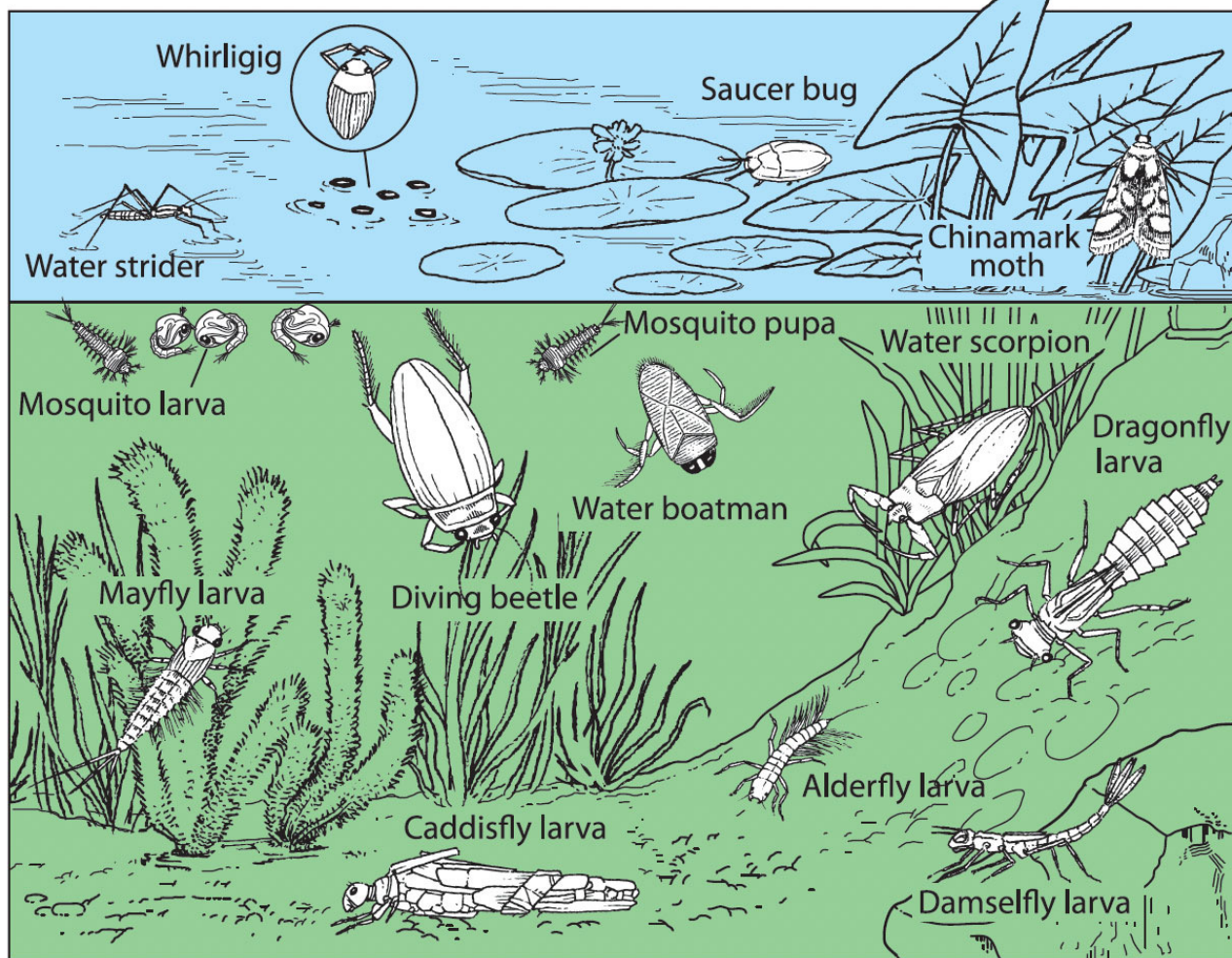
Water Clarity

Turbidity: Fine particles like silt, mud, and organic material can reduce water clarity. Can you see the bottom of the stream?
How would you rank the water clarity?

clear 1 2 3 4 5 6 7 8 9 10 murky

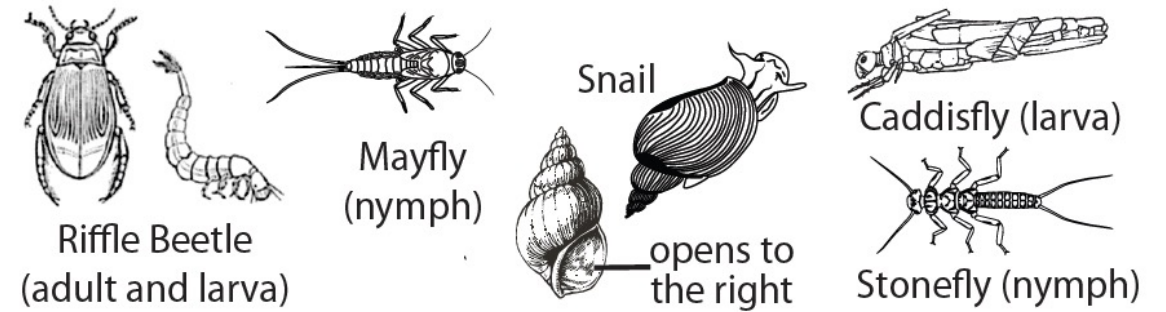
Water Quality

Freshwater Macroinvertebrates



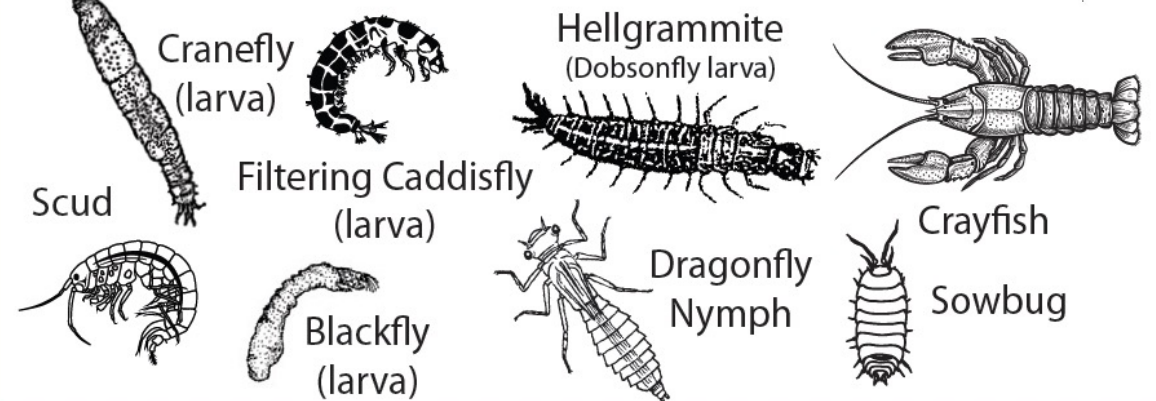
GROUP 1

Generally pollution intolerant - dominance signifies good water quality



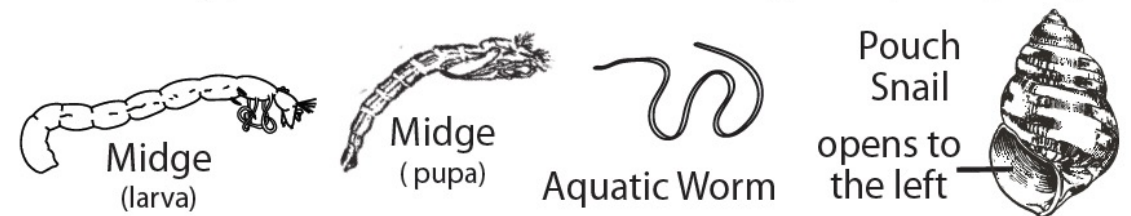
GROUP 2

Exist in a wide range of water quality conditions



GROUP 3

Generally pollution tolerant - dominance signifies poor quality



We can't forget fish!

THE EARTH'S WATER SUPPLY



Total volume of water

freshwater - 2.5%

saltwater - 97.5%

Of the freshwater, only 0.3% is in liquid form on the surface



Freshwater on surface:

Rivers

Lakes

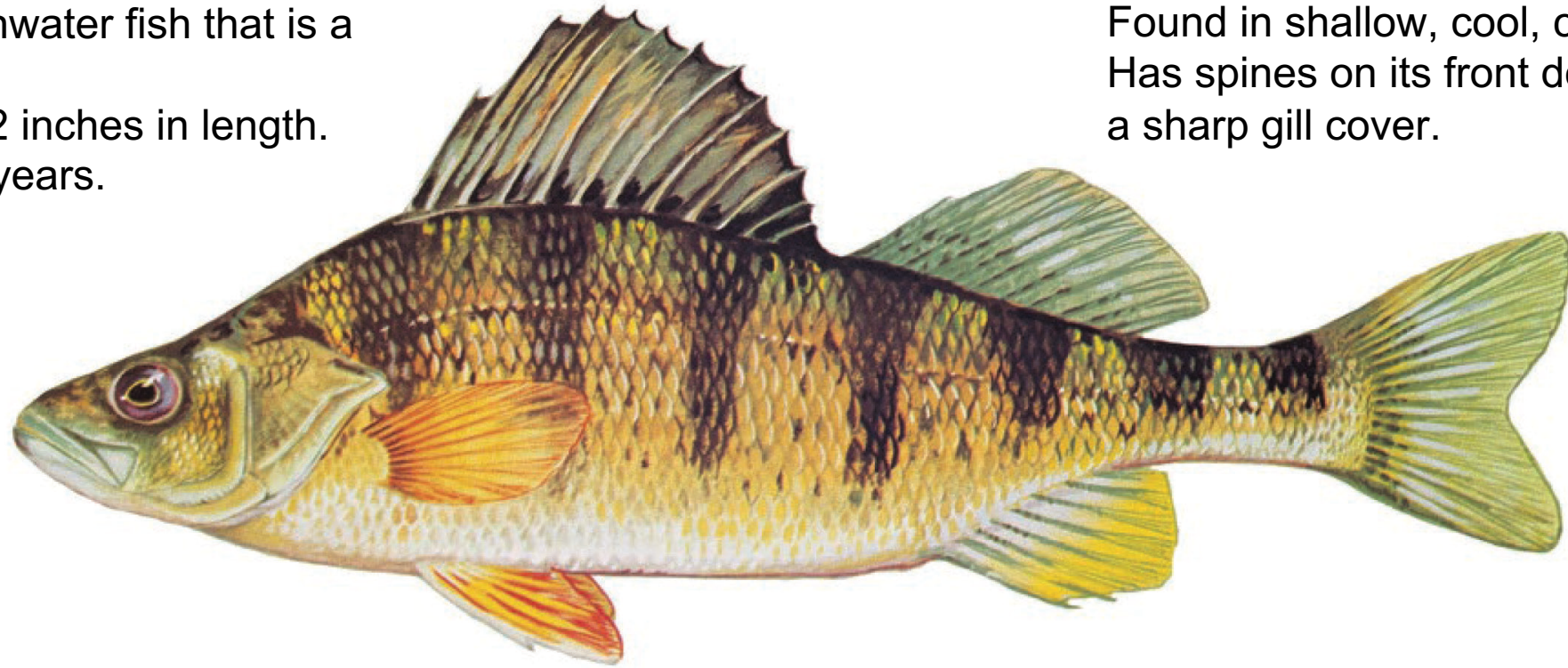
Groundwater

There are about 800 different species of freshwater fish in North America

Yellow Perch

Small, native freshwater fish that is a slow swimmer.
Can grow to 9 - 12 inches in length.
Can live up to 10 years.

Found in shallow, cool, clear waters.
Has spines on its front dorsal fin and a sharp gill cover.



FUN FACT:



2-pound, 11.68-ounce

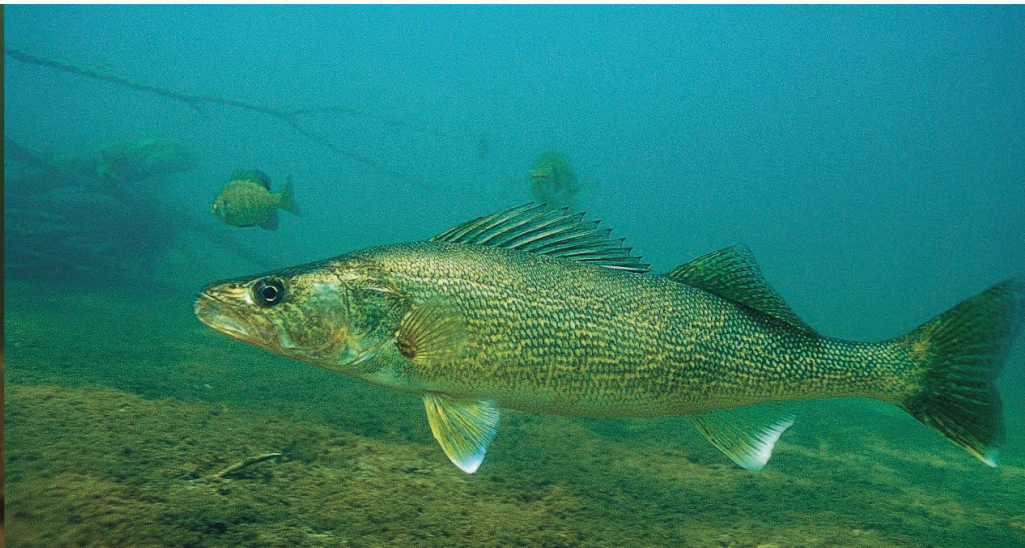
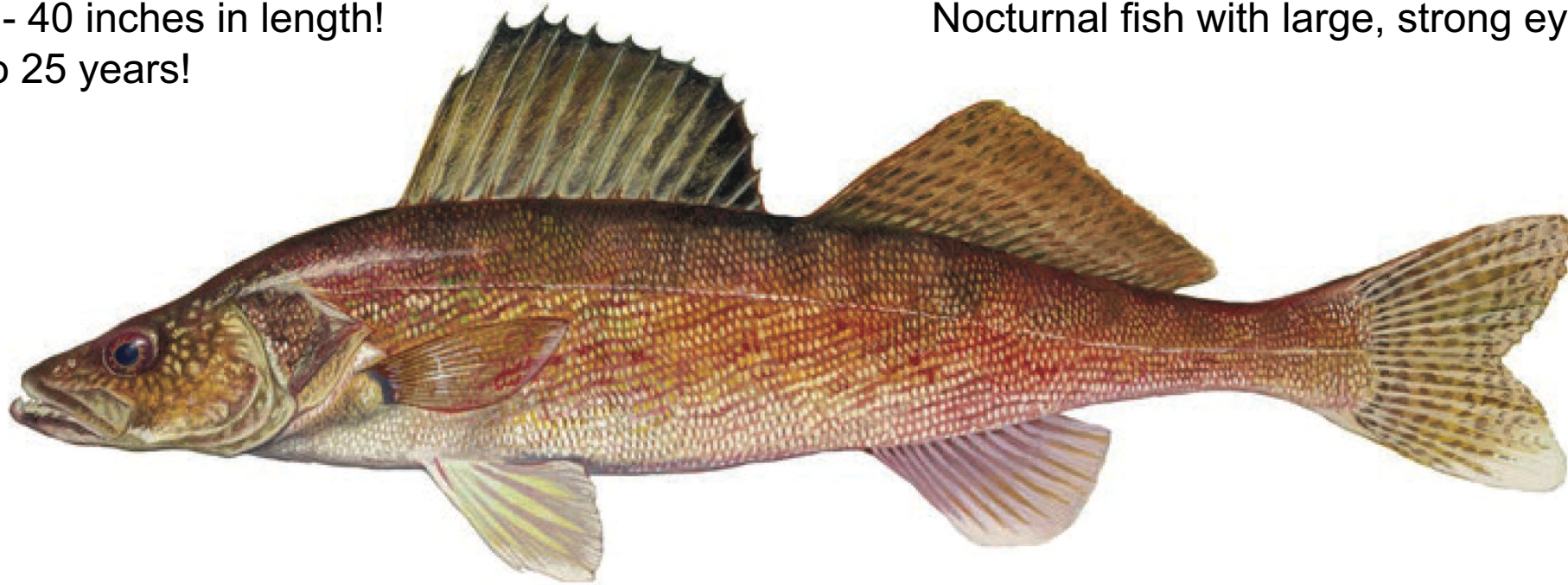
15.5 inches long

12-year-old Tia Wiese - Idaho's Cascade Lake

Walleye

Native freshwater fish related to the Perch.
Can grow 30 - 40 inches in length!
Can live up to 25 years!

Found in cool waters like rivers, streams and lakes.
Nocturnal fish with large, strong eyes.

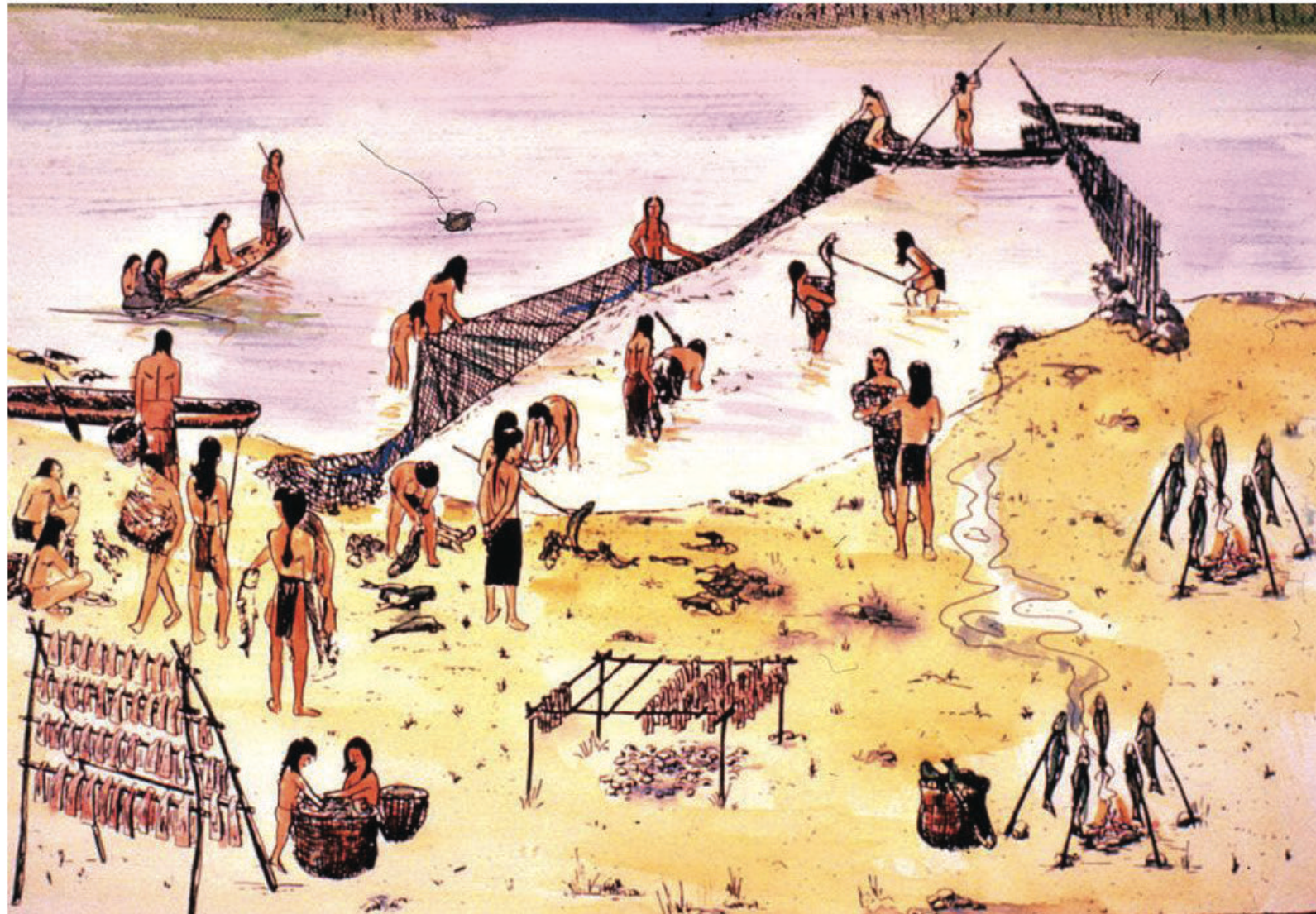




FUN FACT:



FUN FACT:

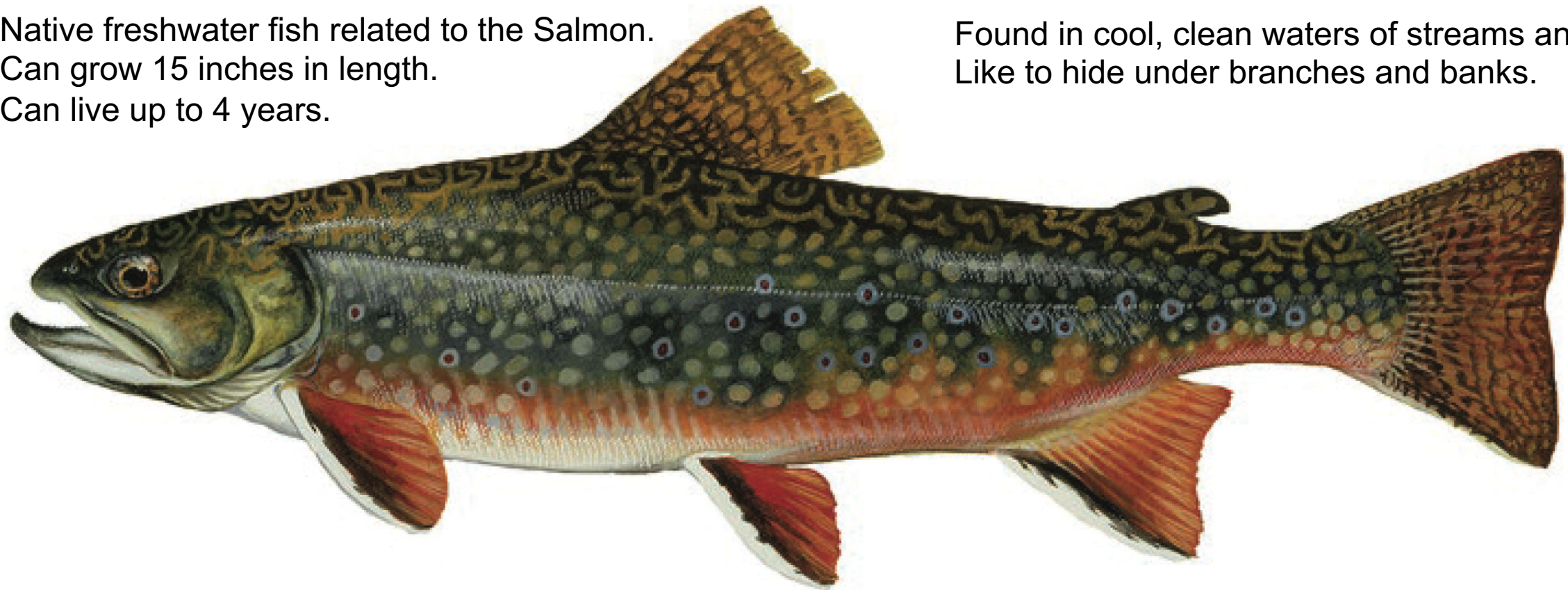


In Native American culture, the brook trout are considered gifts from their spiritual leaders. To many tribes, it represents life, renewal, and abundance. They believe the brook trout's vibrant colors to be symbolic – red for passion, blue for wisdom, and white for purity. The fish is also seen as a guardian spirit, protecting water sources from pollution.

Brook Trout

Native freshwater fish related to the Salmon.
Can grow 15 inches in length.
Can live up to 4 years.

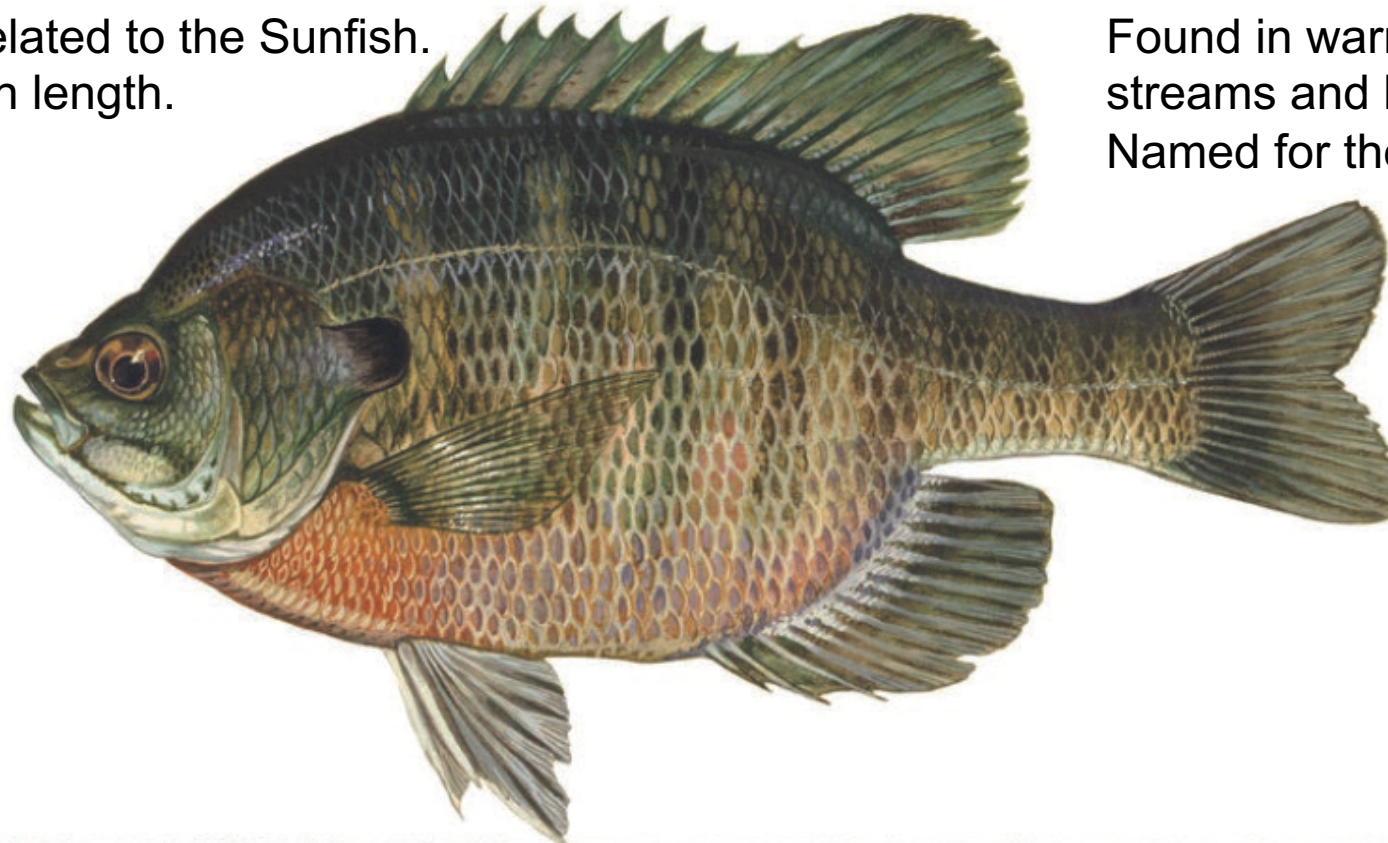
Found in cool, clean waters of streams and ponds.
Like to hide under branches and banks.

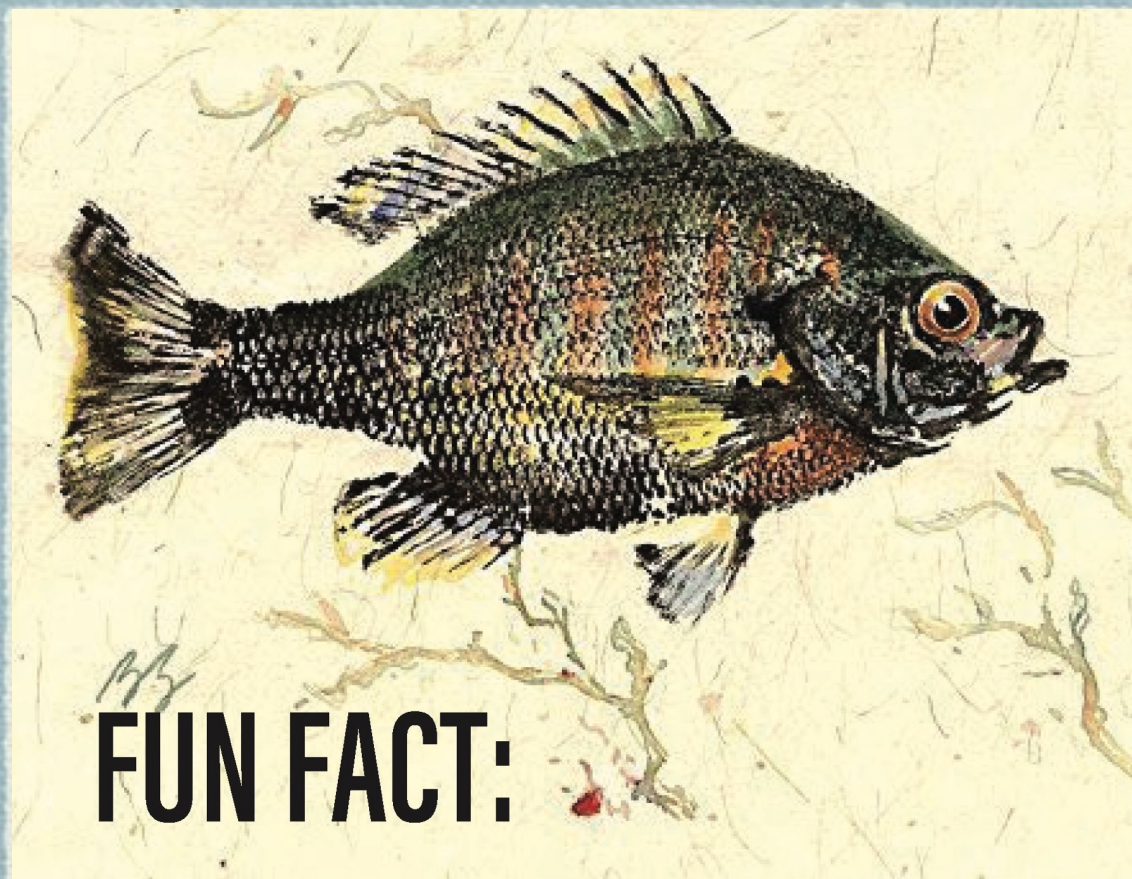


Bluegill

Native freshwater fish related to the Sunfish.
Can grow to 15 inches in length.
Can live up to 9 years.

Found in warm waters like ponds,
streams and lakes.
Named for the shiny blue on its gills.

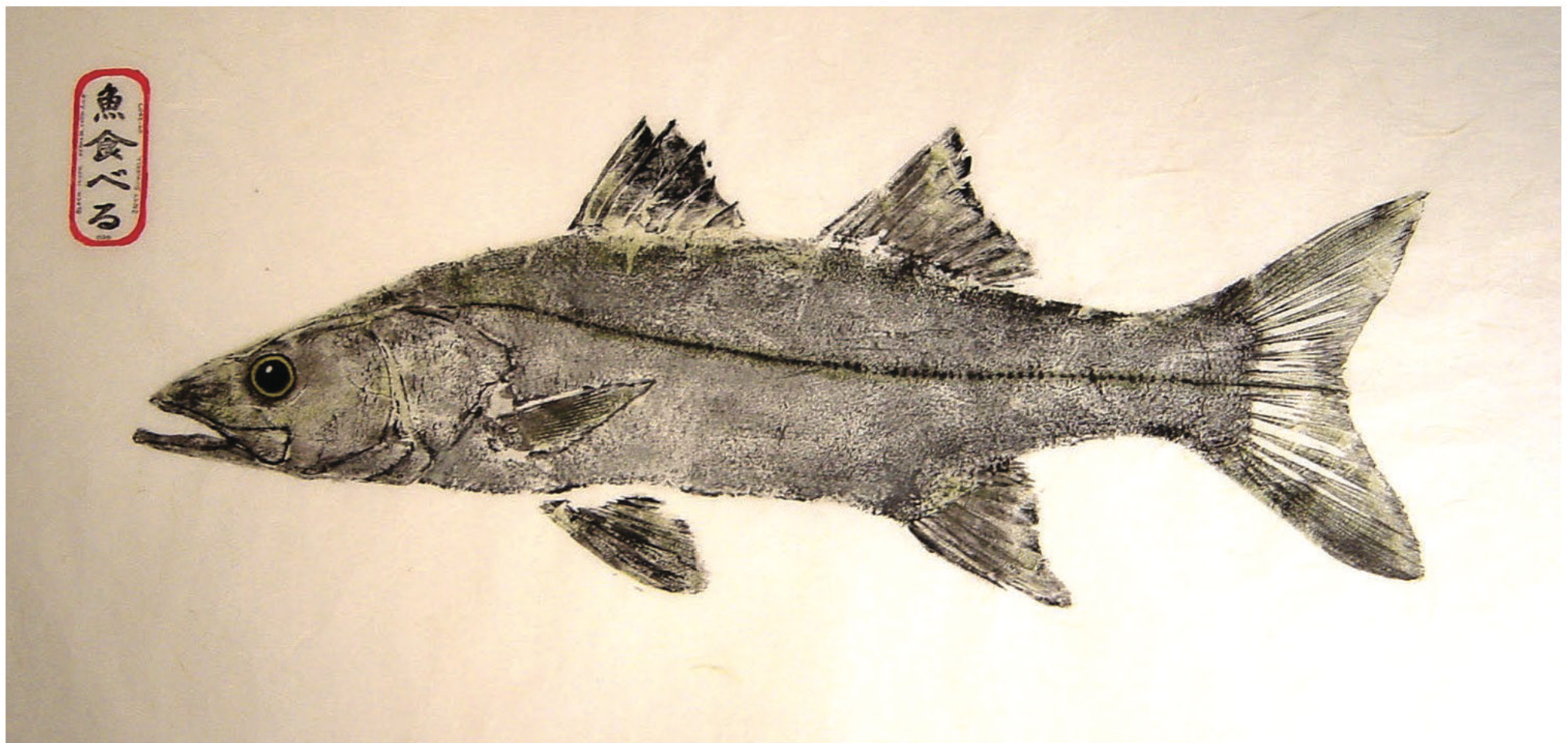
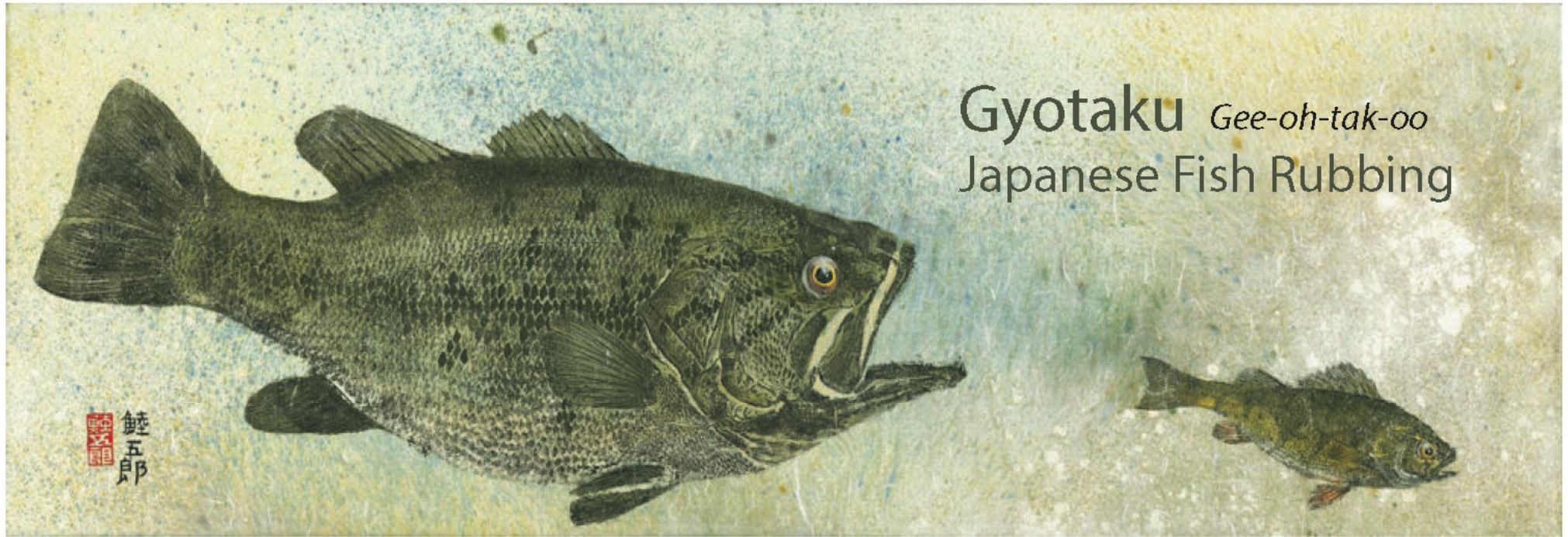




Gyotaku



Gyotaku *gee-oh-tak-oo*





Introduction to Nature Journaling



Thank you!



If you “train your mind to see deeply and with **intentional curiosity** . . .
the world will open before you;” — John Muir Laws