



## Newsletter Supplement • Spring 2014

### OF MILKWEED, MONARCHS, AND MIGRATION

By Mark Gabriele

Tolerant of drought and poor sandy soils, it is no surprise that *Asclepias syriaca* (common milkweed) is native to Cape Cod. Milkweed is a well-known favorite of the monarch butterfly, whose relationship to this perennial wildflower is in fact much deeper than it first appears. Monarchs undertake an amazing migration to find the milkweed in season, and then escape the brutalities of winter down south. But will the monarchs be returning to Wellfleet this spring? And if so, in what numbers?



Last fall, the monarch began to make headline news. Stories appeared in *The Washington Post*, *The Boston Globe*, *The New York Times*, and other papers about dwindling numbers of monarchs making the first leg of the migration – from the meadows and fields of southern Canada and the U.S. down to Mexico. The story of their journey is one of Mother Nature's most remarkable and was not revealed until 1976. The first piece of the puzzle was solved by Canadian entomologists Fred and Norah Urquhart. By painstakingly tagging and tracking individual insects, they were able to establish the monarchs' migratory behavior. But it wasn't until Kenneth Brugger and Catalina Trail made the breathtaking discovery of mountainsides in Mexico ablaze with millions upon millions of fiery orange monarch wings that the picture became complete, and the winter destination of the monarch was charted.

#### Will the monarchs be returning to Wellfleet this spring?

The biological mechanisms of this migration are extraordinary and involve a specially adapted sequence of butterfly generations. After 3 generations of butterflies, each with the normal lifespan of 6-8 weeks, there emerges a special 4<sup>th</sup> generation with both an epic challenge ahead

and the heroic capabilities to suit. The 4<sup>th</sup> generation individuals hatch in fall, when the milkweed is starting to die back. The caterpillars eat and pupate like all the others, but when these butterflies emerge from their chrysalis, they will remain reproductively immature and then pack on 6 times the normal fat reserves drinking wildflower nectar for the journey. Rather than mating, they will begin the 2300 mile migration from Wellfleet to central Mexico, where they will hibernate on fir trees until spring. With the coming of spring, they awaken, complete their maturation, and return north in time to find new shoots of milkweed emerging from the ground. They lay their eggs upon these shoots and then die – making the lifespan of this 4<sup>th</sup> generation 6-8 *months*. And now we come to the most staggering detail of all, one that is still (continued on Page 2)

a subject of research: their flight path seems to be inherited. When this 4<sup>th</sup> generation butterfly arrives at the mountainsides of Mexico to hibernate, it returns to *the same tree on the same mountain from which its great-grandparent departed!*

Schoolchildren are filled with wonder to learn that a salmon returns to the same stream wherein it hatched to spawn. This is similar but different in one critical way: the salmon that returns is the same individual organism that left, but the butterfly that returns is separated by 4 generations from the one that departed. Here we can see the sheer virtuosity of Mother Nature's hand is revealed in something subtle and silent; it was taking place right under our noses and not even noticed, let alone understood, until modern times. It's not fully understood still. One has to wonder: how many other similar examples might there be of which we haven't even the slightest inkling?

The troubling news last fall was seriously impoverished numbers of migrating monarchs observed, even fewer than the previous year. This winter *CBS*, *ABC*, and *National Geographic* reported the smallest overwintering populations ever. Last season monarch sightings in Wellfleet were rare. There seems to be more than one reason for the decline. Illegal deforestation in Mexico has been cited, but the big problem seems to be on our side of the border, where the milkweed just isn't wanted. Genetically modified crops allow for extensive use of herbicides to kill weeds like milkweed, and the plant is not desirable for landscape use. In a manicured garden it can make the impression of a hillbilly at a society ball. But the same plant we dismiss from our gardens and eradicate from our fields inspired the monarch to perform somersaults of evolution – perhaps even to the extent of inventing “genetic memory” – just to capitalize on the full range and growing season of this plant.

Monarch migration, a phenomenon that took countless millennia to evolve, may be unraveling – all within in the span of one human generation. Since record keeping began in 1993, the overwintering population in Mexico has dropped to its lowest point – low enough to revise the monarch's status to ‘near threatened.’ In the words of Chip Taylor, director of *Monarch Watch*, “To assure a future for monarchs, conservation and restoration of milkweed needs to become a national priority.” If we were to draw a moral from this tale, it might be this: to weed is human – to conserve, divine.

***Monarch butterflies were observed last summer on the milkweed patch at the Head of Duck Creek, a WCT property. WCT protects other patches of milkweed on conservation areas in Wellfleet.***

## VERNAL EQUINOX QUIZ

Happy Spring! The Vernal Equinox occurred at 12:57 PM on March 20<sup>th</sup> 2014. In astronomical terms, the Equinox is defined as the moment when the Earth's axis is directly perpendicular to the center of the Sun, and when day and night are roughly the same length. How much do you know about the equinox?

Q: Does the Vernal Equinox always signal first day of Spring?

A: Depends whether you are above or below the equator. March 20<sup>th</sup> was the first day of Autumn in the Southern Hemisphere.

Q: For the sun to pass you directly overhead on the Vernal Equinox, where must you stand?

A: On the equator. Your shadow would be entirely underfoot.

Q: Where does the sun rise on the Vernal Equinox?

A: Due East. Spring and Fall Equinoxes are the only times in the year when this is true.

Q: Can I stand a raw egg on its end on the Vernal Equinox?

A: Maybe. This is actually a myth. With a little patience you can balance a raw egg on its end any day of the year.

## **LIVING LIGHTLY ON THE LAND**

Whether you live in the Cape Cod National Seashore or just enjoy its majestic landscapes and seascapes, you will like “To Live Lightly on the Land,” a publication produced by the Compact of Cape Cod Conservation Trusts.

Project author Mark H. Robinson, Executive Director of the Compact, presents a guide to private land protection within the National Seashore. The booklet features testimonials by property owners who – through donations, bargain sales, land swaps, or conservation restrictions – have further protected the areas that they and you love. The booklet details the tax benefits for homeowners within the National Seashore, but the conservation techniques and procedures can also be applied to properties which are not within the seashore.

Copies of the guide are available if you contact Mark H. Robinson at the Cape Cod Compact, P.O. Box 443, Barnstable, MA 02630 or by e-mail at [mark@thecompact.net](mailto:mark@thecompact.net). The Compact’s video entitled, “Cape Cod National Seashore: A Land of Beauty at Risk,” may be viewed at [www.thecompact.net/regionalprojects](http://www.thecompact.net/regionalprojects). You may discover that some of your favorite places and people you know are included in the booklet and video.

### **TO THE TEST: PROPERTY-TAX EXEMPTION FOR LAND TRUSTS**

The town of Hawley in Franklin County, Massachusetts is the crucible for a case with potentially widespread implications for land trusts such as ours. It will be a landmark case in Massachusetts, and is also garnering nation-wide attention. On January 6<sup>th</sup>, 2014, the Massachusetts Supreme Judicial Court (MSJC) heard arguments in the case of New England Forestry Foundation (NEFF) vs. Town of Hawley. The Town of Hawley submitted a property tax bill to NEFF for 120-acre parcel which NEFF refuses to pay. Standards for property tax exemption are the heart of this dispute. Numerous studies, including the 2013 report by the Trust for Public Land which was summarized in WCT’s Fall 2013 newsletter, demonstrate that local land trusts such as ours work in cooperation with local governments with the end result of “lessening the burden of government” in providing open space for conservation, passive recreation, and habitat. As this is one of the criteria for property tax exemption in Massachusetts, we are hopeful that the MSJC will issue a favorable judgment. Another major issue in the case surrounds the definition of what it means to “occupy” land for conservation. In some instances, for example conserving land to best protect rare flora or fauna, conservation land would ideally be left utterly undisturbed. How then can a land trust demonstrate that it is “occupying” said land? One of WCT’s techniques is to do annual inspections. WCT will be following this case closely, a decision is expected in late spring or early summer. We will let you know the results and how it may impact our operations.

### **MESA UPHELD & STRENGTHENED**

The Massachusetts Supreme Judicial Court handed down a decision in February in a Hamden County case that challenged the Massachusetts Endangered Species Act (MESA). In *Pepin v. Division of Fisheries and Wildlife*, a homeowner argued that his due process rights had been violated. The Commonwealth argued that taking steps to protect the box turtle is not a burden and has been done many times in the public interest. The Supreme Court’s ruling in favor of the Division of Fisheries and Wildlife upholds and strengthens their right to protect priority habitat.

The Eastern Box Turtle, which are in a population decline, are designated an animal of “Special Concern” and have been under MESA protection since the Act was established in 2006. Most of Wellfleet is protected as priority habitat under MESA.



# The Poet's Walk

By Dwight Estee

## ***Thickest Thicket***

The argument is made  
What is harder - start or end?  
This path, it was beginning  
The challenge to attend.

Through thickest thicket growing  
The work crew had to toil  
Briars were the culprits  
That any trail would spoil.

But once the work was done  
The path now had its start  
AmeriCorps worked wonders  
bridged the hardest part.

Impassible one time  
Not easily to tread  
A tunnel through the thicket  
Now, not a walk to dread.

Nature owns these acres  
We only chance to share  
All the beauties she had hidden  
Within her snarled lair.

Birds sing in her protection  
Where they haven't got a care  
And deer oft leave their footprints  
When daily passing there.

In the summer there is grow-out  
Fall the flora will recede  
To display what nature hides  
Behind the bramble weed.



Beds of ivy line the ground  
Not just climbing up a tree  
Undergrowth has done its time  
Natures past it now lets free

We now see the oak and locust  
That have fallen in the blows  
In once uncounted numbers  
This openness now shows.

Laid bare by winter's peeling off  
The passing walker sees  
The timeless sense of beauty  
The winter die back frees.

Covered now with blowing snow  
No footprints in this place  
A wood forever free  
To live at nature's pace



### ***The Red House***

Between the path and red house  
Grows a single hardy holly  
Her origin a wonder  
A random gardener folly?

They seem of different ages  
Tree and house apart  
Holly strong and vibrant  
Red house – vibrant not

There must be some connection  
Between the plant and home  
Both rooted to this ground  
More glacial sand than loam.

Time will have its way  
A fact man often fears  
The house is worn but proud  
Paint battling the years

While the tree looks full of promise  
In its reach toward sunny rays  
A clear symbol it remains  
Ahead are better days



### ***An Oak in the Forest***

When this oak fell  
Did the ground shake?  
The tallest around  
No one there to hear the sound.

When this oak fell  
Was it in sacrifice?  
Making room for its child  
Acorns now growing wild.

When this oak fell  
Did other trees rejoice?  
In the new found light  
Do saplings know delight?

When this oak fell  
Did it intend to show?  
One hundred and three rings  
The history it must know.

When this oak fell  
Was it even aware?  
We'd use its wood to burn  
And for artisan's to turn.

When this oak fell  
Did it foresee its end?  
A century of growth  
Now over.





## ***Winter Wood***

A winter wood reveals its age  
Leaves stripped away  
And dropped on the floor.  
Bare trunks and spindly limbs.

Forced to endure the coming season  
Of cruel winds and freezing rain.  
Gripping tightly to the soil  
Each shiver threatens to drop a branch.

Steady blows win some battles  
Wooded warriors crash to the ground  
Reclined at the feet of kith and kin  
Oaks, pine, locust and beech.

The ones who chance endure  
Weep over the bodies of long lost brethren  
Who have fallen; bark lost, armor gone  
Shiny naked victims.

Aglow in the fading light  
A wood that's getting old  
Remembering the dead  
And trying to live.





### ***Ode to a High Bench***

No fancy bench beneath me  
But tired from walking, it had to do  
Only upon alighting there  
I saw the regal view.

I had it all unto myself  
A realm of only one  
Surveying my hidden domain  
Made gold by setting sun.

Through trees below, water I saw  
Glassy, dark with black reflection  
The Walker Pond below my perch  
Mirrored nature's perfection.

Around the water's edge below  
Marsh grass the only green  
But one should know a winter glow  
Makes muted colors gleam.

Browns, tans and yellows shimmered  
And upon still waters seemed  
Like jewels laid out before me  
A view for kings and queens.

November is a special time  
To chance a late day sit  
Absorbing coming winter chills  
That have to come with it.

At last the cold gave notice  
It was time to stand and go  
The bench – it still remains  
For others, peace to know.