### IOSKÓHARE (SCHOHARIE) MOHAWK VALLEY KANIEN'KEHÁ:KA TERRITORY CATSKILL MOUNTAINS OF NEW YORK

### WATERFALL UNITY ALLIANCE BIOREGIONAL SANCTUARIES

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### IOSKÓHARE : The Schoharie Valley

Ioskóhare (Schoharie) is the original name of this fertile valley in the foothills of the Catskill Mountains of New York. These are the ancestral homelands of the Kanien'kehá:ka (People of the Flint), also known as the Mohawk People. The name means, the place of cleaning or cleansing. It is known as the Eastern Door of the Haudenosaunee Confederacy, and the Kanien'kehá:ka are the keepers of that door.

Rich in history, culture, geology and ecology, the the Valley of Ioskóhare is uniquely situated as a convergence point of several BioRegional landscapes. The ancient alluvial floodplains of the valley provide some of the best farmland in the world; and it's unique glacier formed geology, forests and waterways support an abundance of plants, insects, animals, and wildlife.

On the Valley floor sit the towns of Middleburgh, Schoharie, Fulton, and the Hamlet of Breakabeen. Towns and hamlets outside the Valley but still within the county include : Blenheim, Broome, Carlisle, Cobleskill, Conesville, Esperance, Fulton, Gilboa, Jefferson, Middleburgh, Richmondville, Schoharie, Seward, Sharon, Summit, Wright, Villages, Cobleskill, Esperance, Middleburgh, Richmondville, Sharon Springs, Central Bridge, North Blenheim, Breakabeen, Charlotteville, Esperance, Fultonham, Gallupville, Grovenors Corners, Livingstonville, Sloansville, Warnerville, and West Middleburgh.

#### "The Schoharie Valley forms one of the most beautiful and interesting regions of the Mohawk Valley. While it constitutes a large part of the Mohawk watershed, the Schoharie River region has marked characteristics of its own and a geographical situation and a topography which make it quite a distinct region, as compared with the rest of the Mohawk Valley.

The Schoharie Valley, with the exception of the northern ten miles of its river section, lies in the Catskill region. The other parts of the basin of the Mohawk are first, one comprising a great shale and limestone belt, paralleling the Mohawk River, which forms what is known as the Mohawk Valley Province in the modern geological histories of the State; second, the northerly part of our Valley which lies in the Adirondack country. These two districts merge in part, while the Schoharie Valley is a markedly separate section. Its broad flats and abrupt hills along the Schoharie River, form a valley region with a beauty all its own, while its upper basin has the rugged mountain picturesqueness of the wild Catskill region in which it lies.

The valley of the Schoharie comprises 920 miles of the 3,485 square miles in the Mohawk watershed, and it thus forms about 27 per cent., or a little more than one-quarter of the total area of the Mohawk Valley.

The greater part of both Schoharie and Greene counties lies within the watershed of the Mohawk, inasmuch as the Schoharie is that river's greatest tributary."

Source: https://www.schenectadyhistory.org/resources/mvgw/history/032.html



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# Introduction



### Who We Are

The Waterfall Unity Alliance was founded in 2015 when Kanien'kehá:ka (Mohawk) leaders from Akwesasne came to stand with residents of the Mohawk Valley against the Constitution Pipeline and fracked gas infrastructure planned for central New York. As part of a grassroots coalition, the Waterfall Unity Alliance successfully pressured the state to deny the pipeline's construction permit, setting a historic precedent as the first defeat by a state agency of a federally approved interstate pipeline.

The Waterfall Unity Alliance is a registered 501(c)3 not for profit organization. <u>www.waterfallunityalliance.org</u> info@waterfallunityalliance.org



### Our Mission + Vision

The mission of the Waterfall Unity Alliance is to protect Ioskóhare (the Schoharie Valley) and all Earth, build alliances across movements & cultures, and help create solutions to the existential challenges of our time.

We are currently mapping the BioRegion of Ioskóhare and exploring what a Waterfall Center of Bioregional Learning would look like. The Center would serve as a community hub to facilitate, convene and educate. Our first task is to map the watersheds of the local creeks and to support and catalyze the definition and parameters of the Ioskóhare BioRegion including; defining regional boundaries based on ecology, watershed data, geologic features, culture, community and local economies.

## What Is BioRegionalism?

Bioregionalism is a philosophy and practice that identifies regional ecosystems, encouraging a sense of belonging, understanding and adaptation to that landscape.

This movement, spanning over four decades, encompasses various aspects: it's both a mindset and a call to action. By recognizing natural landmarks like mountain ranges and rivers as foundational elements for defining political and cultural boundaries, bioregionalism challenges the conventional notion of territories outlined by arbitrary lines on maps. It's a holistic approach, merging political, cultural, and ecological perspectives, all rooted in the concept of bioregions—naturally delineated areas.

At its core, bioregionalism advocates for a societal restructuring that respects and adapts to the unique characteristics of each region. Rather than molding landscapes to fit human needs, it encourages societies to evolve in alignment with the ecosystems they inhabit. In essence, bioregionalism offers a blueprint for cultivating sustainable relationships between people and their environments, fostering resilience and continuity for generations to come.



### Why Schoharie Valley?

### Water Bodies

The principal streams are Schoharie, Cobleskill, and Catskill creeks, and West and Manor kills. The main branches of the Delaware River originate in the southwestern corner of the county. Water is supplied by Schoharie, Blenheim Gilboa, and Upper Blenheim Gilboa reservoirs.

### History + Culture

Originally inhabited by the Kanien'kehá:ka, European settlers arrived in the early 18th century. Today, the valley preserves its heritage through historical sites, museums, & annual events, offering visitors a glimpse into its unique blend of indigenous, colonial, and rural American cultures.

### Ecology

According to the 2019 Schoharie Creek Management Plan Wildlife & Fisheries Summary, the Upper Schoharie Watershed contains a high degree of biological diversity with a species assemblage that is unusual within the Hudson River Valley.

### Community

Throughout its history, the Schoharie Valley has encompassed an intermingling of peoples and cultures. The communities here have weathered wars, floods, and economic shifts, yet its resilient spirit endures, reflected in its tight-knit communities.

### Geology

The Schoharie Valley in New York boasts unique geologic formations shaped by millennia of natural processes. The valley's distinctive topography includes limestone and shale formations, contributing to its diverse ecosystem.

### Economy

Boasting some of the world's most fertile soil and a favorable climate, the valley support a wide range of crops. Additionally, the valley's proximity to major urban centers provides opportunities for agritourism and direct market sales, contributing to the region's economic resilience and vitality.

### Mohawk Valley Map



"Schoharie County is sometimes considered to be part of the Mohawk Valley because the Schoharie Creek, primarily located in Schoharie County, is a major tributary that empties into the Mohawk River at Fort Hunter in Montgomery County. Furthermore, the northern border of Schoharie County with Montgomery County is very close to the Mohawk River."

Source : <u>https://en.wikipedia.org/wiki/Mohawk\_Valle</u>

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### **Current Mapped BioRegions in NYS**

At this time, there are several BioRegions that have been mapped out in New York State, however, both of these region have excluded the Schoharie Watershed and surrounding area. Below are examples of the current mapped bioregions, followed by an overlay map of the two regions to visualize how they circumnavigate the Schoharie Valley.





0 20 40 80

### Current Mapped BioRegions in NYS - Overlay



#### NOTE :

The location of lotsi'tsíson (Skywoman's) Forever Farm - part of the Waterfall unity Alliance - is designated as the RED marker, and sits in the heart of Schoharie Valley.

Panther Creek

which supplies water to Kahonrakén:ra (White Spout Waterfall is designated by the **ORANGE** marker on the map.

### Mohawk Valley Map - Historical



"The map comprises almost the entire Mohawk Valley and shows the six Mohawk Valley counties of Oneida, Herkimer (except the northern part), Montgomery, Fulton, Schoharie and Schenectady. Portions of these counties (with the exception of Montgomery county) comprise parts of other watersheds but three-quarters of the territory of counties here shown lie in the Mohawk Valley. Parts of the Mohawk Watershed in Madison, Hamilton, Saratoga, Otsego, Albany and Greene are not shown. The northern half of Herkimer county is omitted, as its great extent to the north prevents its conveniently being represented within the limits of this page, and, furthermore, it belongs geographically to the Black river watershed. Attention is called to the key in the upper right hand corner. All places of approximately over 200 population (in 1920) are here shown as well as some even smaller centers of historic interest.

#### Source :

https://www.schenectadyhistory.org/resources/mvgw /maps/mohawk\_valley\_counties\_map.html —

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## **Current EcoRegion & Watershed Maps**

## Schoharie Creek Watershed

Schoharie Creek is a river in New York that flows north 93 miles (150 km)[2] from the foot of Indian Head Mountain in the Catskills through the Schoharie Valley to the Mohawk River, which flows into the Hudson River near Cohoes Falls in Troy. It is twice impounded north of Prattsville to create New York City's Schoharie Reservoir and the Blenheim-Gilboa Power Project.

Schoharie Creek is part of the drainage system of the Hudson River watershed and a direct tributary of the Mohawk River. Tributaries of Schoharie Creek, listed from upstream to downstream, include: Gooseberry Creek, Red Kill, East Kill, John Chase Brook, Batavia Kill, Hunterfield Creek, Platter Kill, Keyser Kill, Little Schoharie Creek, Stony Brook, Fox Creek, Bowman Creek, Roaring Kill, Cook Brook, West Kill, Little West Kill, Johnson Hollow Brook, Bear Kill, Mine Kill, West Kill, Cole Brook, Panther Creek, Pleasant Valley Creek, Line Creek, Cobleskill Creek, Cripplebush Creek, Fly Creek, Wilsey Creek, and Irish Creek.

Stream flow on the lower Schoharie is significantly influenced by the Schoharie Reservoir. Flow from the reservoir is restricted when the dam is not open, and the lack of flow mostly during the summer increases water temperature, which negatively affects the fishery. Also this section flows through an agricultural valley, which contributes to increased sediment in the creek. This increases streambank erosion and sediment loadings, and during high flows, cause the creek's turbidity to increase.

Source: https://en.wikipedia.org/wiki/Schoharie Creek

### Panther Creek Watershed Community



### Panther Creek Watershed Map



Source:

https://water.usgs.gov/wsc/a\_api/wbd/sub watershed02/020200050402.html?fbclid=Iw AR1abCWnVy50e-uJW-V8aVPrg2lEW2vIJlhcg Pnc\_-lpJZCvLmwJwOWNCmE

# NYS EcoRegion Maps





# NYS EcoRegion Maps



#### https://bplant.org/region/824

60 N	Northern Allegheny Plateau
60a	Glaciated Low Allegheny Plateau
60b	Delaware-Neversink Highlands
60c	Catskills Transition
60d	Finger Lakes Uplands and Gorges
60e	Glaciated Allegheny Hills
60f	Cattaraugus Hills

83	Eastern	Great	Lakes	Lowla	nd

- Erie/Ontario Lake Plain 83a
- Champlain Lowlands 83b
- **Ontario** Lowlands 83c
- St. Lawrence Lowlands 83d
- Upper St. Lawrence Valley 83e
- 83f Mohawk Valley

### **Schoharie Basin & Watershed Map**



Source : <u>https://catskillstreams.org/major-streams/s</u> <u>choharie-creek/</u>



### USGS Schoharie Watershed Map



Source:

https://water.usgs.gov/lookup/getwatershe d?02020005/www/cgi-bin/lookup/getwaters hed

#### Additional Resources :

https://water.usgs.gov/lookup/getwatershe d?02020005/www/cgi-bin/lookup/getwaters hed

### Schoharie Watershed Parks & Preserves



Legend DEC Lands ASHI AND DINNACI E STATE EODEST BATES STATE CODEST BEARPEN MOUNTAIN STATE FOREST DELLEAVER MATH DAVING AREA BELLEAYRE MTN. SKI CENTER BIG INDIAN WILDERNESS BLACKHEAD PANCE WILD EOPEST CAIRO LOCKWOOD STATE FOREST COLGATE LAKE WILD FOREST DEVIL'S TOMESTONE CAMPORICI NO GREENE COUNTY DETACHED PARCEL HALCOTT MOUNTAIN WILD FOREST HIGH KNOB STATE EOPEST HUNTER MOUNTAIN WILD FOREST HUNTERSFIELD STATE FOREST INDIAN HEAD WILDERNESS KAATERSKILL WILD FOREST MOUNT PISGAH STATE FOREST NORTH/SOUTH LAKE CAMPGROUND OVERLOOK MTN. WILD FOREST PHOENICIA WILD FOREST DDB/ATE I AND SHANDAKEN WILD FOREST SLIDE MOUNTAIN WILDERNESS SOUTH MOUNTAIN STATE EOREST VINEGAR HILL WMA WEST KILL MOUNTAIN WILDERNESS WINDHAM HIGH PEAK WILD EODEST Non-DEC Lands Forest Preserve Private Inholding State Forest Landmarks

Fishing Easements

Hunter Mountain Fire Tower
 Overlook Mountain Fire Tower
 Overlook Mountain Fire Tower
 Je Boat Launch
 Tranis
 Foot Trail
 Multi-Purpose Trail
 Multi-Purpose Trail
 Access Trail (unmakred)
 Rocreation Parks [
 Access Trail (unmakred)

Bayard Elsbree Memorial Park
 Brandon Memorial Park
 AdirondackCatskil

 State Campgrounds
 Devils Tombstone State Campground
 Morth/South Lake State Campground

Source : <u>https://catskillstreams.org/</u> <u>wp-content/uploads/2019/</u> <u>12/Sch-recreational-assets.</u> <u>pdf</u>

### **Schoharie Watershed Recreation Map**



Source : <u>https://catskillstreams.org/</u> <u>wp-content/uploads/2019/</u> <u>12/Schoharie\_recreation.p</u> <u>df</u>

### **NYC Water Supply - Schoharie Reservoir**



Source : <u>https://www.catskillstreams.org/pdfs/SCSM</u> <u>P/4\_history.pdf</u>

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## **Ecology Of The Schoharie Valley**

### Schoharie Watershed Ecosystem

The Schoharie watershed is literally crawling with life. An amazing variety of habitats, people, plants, and animals are all interconnected in a fragile web of life, often referred to as biodiversity. Every member is essential to keeping this web in balance.

There are many ecosystem functions/services we receive from nature including cleaner air through vegetation respiration, cleaner water through soil and wetland filtration, soil formation from forests, pollination of food crops from our native insects, natural flood water retention/groundwater recharge, and pest control from our native bats, birds, and insects. The plants and animals that inhabit the Schoharie watershed are suited to the habitats provided by our temperate climate. When early 1900's industry in the valley declined, previously cleared growth has returned to forested land - approximately 85% of the Schoharie-basin's land cover being classified as forest in a 2001 NYCDEP analysis.

The upper Schoharie, and many of its tributaries, are primarily cold water streams, meaning they provide suitable water temperatures for organisms, such as brook trout and sculpins.

The Upper Schoharie Watershed contains a high degree of biological diversity with a species assemblage that is unusual within the Hudson River Valley. Forests with features such as talus slopes, cliffs, and mature stands are habitat for plants and animals adapted to these conditions. The large, unfragmented nature of the forests creates favorable habitat for wide-ranging animals (such as black bear and bobcat) and wildlife that prefer forest interiors (such as black-throated blue warbler). It is likely that forests of the Upper Schoharie watershed are important breeding areas for raptors such as broad-winged hawk, Northern goshawk, and sharp-shinned hawk.

### Source: <u>https://catskillstreams.org/wp-content/uploads/2019/12/Summary-of-Schoharie-Wildlife-and-Fishery.pdf</u>

### Observed Rare Species

Source : https://catskillstreams.org/wp-content/uploads/2019/12/Summary-of-Schoharie-Wildlife-and-Fishery.pdf

#### Observed Rare Species and Significant Ecological Communities (source: NY Natural Heritage Program)

Rare plant and animals species with known populations within the watershed and documented examples of rare and high quality ecosystems within the watershed. Information regarding the locations of rare species is considered sensitive. The distribution of information which identifies the locations of rare species or their habitats may lead to the collection or disturbance of the animals and plants at those locations.

Key: TNC Status: For State and Global Rank explanations see www.natureserve.com; Legal Status: FE = Federal Endangered; FT = Federal Threatened; SE = State Endangered; ST = State Threatened; G = Game species; SC = State Special Concern; NYNHP Species: Rare species tracked by the NY Natural Heritage Program; NYSDEC SGCN: Species of Greatest Conservation Need included in State Wildlife Plan; Other Ranking: Listed Partners in Flight WatchLlst

Rare Birds		TNC Status	Legal Status	NYNHP Species	NYSDEC SGCN	<b>Notes:</b> (this section contains habitat association and distribution status information reported by the NY Natural Heritage Program)
Bald eagle	Haliaeetus leucocephalus	S2S3B, S2N, G5	ST, FT	X	X	Schoharie reservoir
Bicknell's Thrush	Catharus bicknelli	S2S3B, G4	SC	Х	X	Found in high altitude spruce-fir forest typically above 3500 feet
Rare Plants		TNC Status	Legal Status	NYNHP Species	NYSDEC SGCN	Notes: (this section contains habitat association and distribution status information reported by the NY Natural Heritage Program)
Blunt-lobe Grape Fern	Botrychium oneidense	S2S3, G4Q	SE	Х		Historical occurrence
Climbing Fern	Lygodium palmatum	S1, G4	SE	Х		Historical occurrence
Musk Root	Adoxa moschatellina	S1, G5	SE	Х		
Rough Avens	Geum virginianum	S2, G5	SE	Х		Historical occurrence
Whorled Mountain-mint	Pycnanthemum	S1S2,	ST	x		
	verticillatum var.	G5T5				
	verticillatum					
Rare Invertebrates		TNC Status	Legal Status	NYNHP Species	NYSDEC SGCN	<b>Notes:</b> (this section contains habitat association and distribution status information reported by the NY Natural Heritage Program)
Appalachian Tiger Beetle	Cicindela ancocisconensis	S1, G3	U	Х	X	Stream (cobble); Found on cobble bars
Natural Communities		TNC Status	Legal Status	NYNHP	NYSDEC SGCN	Notes: (this section contains habitat association and distribution status information reported by the NY Natural Heritage Program)
Hemlock-northern hardwood forest		S4, G4G5		Х		Lowest elevations, adjacent to and forming a mosaic with beech-maple mesic forest, found in ravines
Beech-Maple Mesic Forest		S4, G4	-	Х		Matrix forest at mid to high elevations ranging from 900 to 3720 feet
Spruce-Northern Hardwood Forest		S3S4,		Х		Mid to high elevations, ridgelines at slightly lower elevations than highest
		G3G4				
Mountain fir forest		S2, G3		Х		Highest elevations
Mountain Spruce-Fir Fores	t	S2S3, G3		Х		Highest elevations

### | Biodiversity of the Upper Schoharie Creek

Source : https://catskillstreams.org/wp-content/uploads/2019/12/Summary-of-Schoharie-Wildlife-and-Fishery.pdf

#### Predicted Terrestrial Vertebrate Species (source: Hudson River Valley GAP)

Terrestrial, vertebrate species that are predicted to occur within the watershed based upon presumed associations of species with habitats.

**OBSERVED BREEDING BIRDS** 

#### **MAMMALS**

#### Eastern Pipistrelle Eastern Red Bat Hoary Bat Indiana Myotis Silver-haired Bat Woodland Jumping Mouse Long-tailed Shrew Southern Bog Lemming Porcupine Black Bear Fisher Bobcat Eastern Cougar River Otter

#### **AMPHIBIANS**

Jefferson Salamander Jefferson Salamander Complex Spotted Salamander Northern Dusky Salamander Longtail Salamander Four-toed Salamander Common Mudpuppy Northern Red Salamander Northern Leopard Frog Wood Frog

#### **REPTILES**

Wood Turtle Timber Rattlesnake Smooth Greensnake Eastern Box Turtle"

#### American Black Duck American Woodcock **Bicknell's Thrush** Black-billed Cuckoo Black-throated Blue Warbler Blue-winged Warbler Bobolink Brown Thrasher Canada Warbler Cooper's Hawk Eastern Meadowlark Golden-winged Warbler Louisiana Waterthrush Northern Bobwhite Northern Goshawk Olive-sided Flycatcher

Prairie Warbler Red-headed Woodpecker Ruffed Grouse Scarlet Tanager Sharp-shinned Hawk Vesper Sparrow Whip-poor-will Willow Flycatcher Wood Thrush Worm-eating Warbler" This list offers a brief summary of the vast diversity of animal species that have been observed in the region. For a comprehensive list and further data please refer to pages 15-25 of the Summary of Schoharie Wildlife and Fisheries that was compiled as part of the Schoharie Creek Management Plan. Link is above.

### Schoharie Creek Ecology



Figure 3. Land cover within the Schoharie Creek Watershed. Data are from 2011 National Land Cover Data.



Figure 4. Ownership of protected lands within the Schoharie Creek Watershed. Data are from the NY Protected Areas Database v 1.4 (2017) and NYC DEP (2017). Source : Schoharie Creek Watershed Assessment - Prepared by The Nature Conservancy. Please click the link below for their full 54 page, comprehensive assessment for further information

https://www.naturalresourcenav igator.org/wp-content/uploads/2 018/03/Schoharie Report Final revwmaps.pdf

### Observed Schoharie Valley Ecology

#### Source : https://www.inaturalist.org/places/schoharie-county

#### Search Places > North America (Continent) > United States (Country) > New York (State) > Find a place Boise MICHIGAN C? HAMPSHIRE WYOMING NEW YORK Chicago Schoharie County, US, NY County NEBRASKA Omaha Salt Lake City Keyboard shortcuts Map data ©2024 Google, INEGI 200 km Land Terms New York Projects People About Schoharie Flag This Place | Embed place widget Species Observations 960 of 1183 confirme Search for Species Establishment Threatened 0 🏉 All life / Life Animals Arthropods Chelicerates \* Arachnids Western Honey Bee **Common Eastern** Spotted Salamander **Common Garter Snake** Eastern Red-backed Wood Frog Eastern Newt American Toad Green Frog Hexapods (Notophthalmus viridescens) (Apis mellifera) (Anaxurus americanus) (Lithobates clamitans) (Cichorium intubus) (Ambustoma maculatum) (Thamnophis sirtalis) (Lithobates sulvaticus) **Bumble Bee** Salamander (Bombus impatiens) (Plethodon cinereus) Insects Chordates Vertebrates Ray-finned Manual Amphibians W Birds CA Mammals **K** Reptiles Bird's-foot Trefoil Common Milkweed White-tailed Deer Hickory Tussock Moth Wild Carrot Wild Turkey New England Aster Northern Two-lined Alleghenv Mountain Germander Speedwell (Lotus corniculatus) (Asclepias suriaca) (Odocoileus virainianus) (Lophocampa carvae) (Daucus carota) (Meleaaris gallopavo) (Sumphyotrichum novae-(Veronica chamaedrus) Salamander **Dusky Salamander** Molluscs analiae (Eurycea bislineata) (Desmognathus ochrophaeus) Kelp, diatoms, and allies Pungi including lichens Ø Plants Protozoans

View Check List Page »

Dame's Rocket (Hesperis matronalis)

Bearberry (Arctostaphulos uva-ursi)

Eastern Boxelder Bug (Boisea trivittata)

Ghost Pipe (Monotropa uniflora)



(Trifolium pratense)



Common Toadflax

(Linaria vulaaris)



(Vespula maculifrons)





(Tussilago farfara)





Margined Calligrapher (Toxomerus marginatus)

Spring Peeper (Pseudacris crucifer)

### Observed Schoharie Valley Ecology



One of the largest non-native trees we have measured in NY is a GIANT weeping willow tree over 33 feet in trunk circumference measured at it's narrowest point! Growing in the Schoharie Valley flood plain, it's safe to say this tree has had excellent growing conditions for all its life. Schoharie County is known as the Breadbasket of the American Revolution, because of the large amount of agricultural crops it's fertile soils could produce and feed the many troops.

Source :

https://www.facebook.com/photo?fbid=817604270393 472&set=a.555118226642079

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### Geo & Landscape Boundaries/Features

### **Schoharie Watershed:** GEOLOGY

Streams and glaciers sculpted these mountains out of a plateau of rock that formed from ancient rivers. That is essentially the geologic story of the Northeastern Catskill Mountains. These mountains and their river valleys are the ongoing result of water interacting with landscape geology under the force of gravity over millions of years.

The Schoharie Creek watershed is uniquely oriented for Catskill drainage basins, with drainage to the west

and north rather than to the southeast or southwest typical of the other principal watersheds. Glacial geology sets the geologic framework for most of the Upper Schoharie Creek stream system, controlling such characteristics as depth of alluvium (water worked sediments), presence of non-alluvial boundary conditions (till and glacial lake sediments), sediment supply and stream channel slope and geometry.

Source: https://www.catskillstreams.org/pdfs/EKSMP/7\_geology.pdf



### Schoharie Valley: TOPOGRAPHY

Source : <u>https://www.sciencebase.gov/catalog/item/</u> <u>5d94b96ce4b0c4f70d0e667a</u>



### Schoharie Valley Topography



Source : <u>https://www.anyplaceamerica.</u> <u>com/directory/ny/montgomery</u> <u>-county-36057/streams/schoha</u> <u>rie-creek-964599/</u>

### **Northern Schoharie Creek - Terrain Map**



Source : https://andyarthur.org/ter rain-map-northern-schoha rie-creek.html

### Northern Schoharie Creek - Terrain Map



Source: https://andvarthur.org/ter rain-map-schoharie-valley .html

### Schoharie Valley – Terrain/Topo Map



Source : <u>https://andyarthur.org/w</u> <u>ms-map-national-land-cov</u> <u>er-dataset-schoharie-valle</u> <u>y.html</u>

### Vrooman Nose & Schoharie Valley – Terrain



Source : https://andyarthur.org/wms-m ap-bohringers-fruit-farm-and-s hauls-farm-fields.html



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### Schoharie Valley History & Culture

### **Schoharie Valley History & Culture**

These are the ancestral homelands of the Kanien'kehá:ka (People of the Flint), also known as the Mohawk People. The name means, the place of cleaning or cleansing. It is known as the Eastern Door of the Haudenosaunee Confederacy, and the Kanien'kehá:ka are the keepers of that door.

European colonists arrived in the valley in the early 1700's, the first were the Palantine Germans in 1710, most settling just south of the Schoharie Valley. Upon settling the valley, the Palatines proved to be good farmers, practicing more careful and advanced farming techniques. One of the earliest colonists to establish a farm in the area was Adam Vroman, namesake of what we now know as Vroman's Nose, a notable geologic lookout point over the valley.

Vroman's Nose was also a test site in the military's production of the M1 smoke generator during World War II. In 1942 the secretive projects' debut test was viewed by scientists and military officials from Vroman's Nose. Overlooking the test site, officials watched as the smokev generator filled the Schoharie Valley with smoke. The device proved successful overseas, obstructing the view of fighter pilots and thereby foiling German air attacks.

The Schoharie Creek begins in the southeast corner of Greene County near the Village of Tannersville. Tannersville grew from the local tanning industry, and was duly named in 1895. The creek was used for its power to run mills for the tanneries.

The Schoharie Valley has a long history of farming. Many families still farm the land and can trace their ancestry back to the colonialist farmers. Logging also took place in the valley. While these industries may have had positive effects on the local economy, they often adversely affected the local environment. None however match the impact that the tanning industry had.

### **Schoharie Valley History & Culture**

It was not until after the devastation of the forests that people began to consider the industry's environmental ramifications. Over time, the forests were allowed to re-grow. The effects of the tanning industry can still be seen today in the mountains' young second-growth forests.

The clearing of land for farms and local industry can often worsen flood issues and cause receiving waters to become polluted. The Schoharie's industrial history caused periods of intense pollution from sediment laden runoff and the toxic pollutants that accompanied the tanning industry. However, water quality improved with the reforestation of the basin. Despite this, challenges still remain from increased development and reverberations from the watershed's industrial past.

The Schoharie Reservoir, located at the intersection of Schoharie, Delaware and Greene Counties, was formed by the construction of the Gilboa Dam. Construction of the dam began in 1920, with completion in 1927. The reservoir contributes approximately 15% of NYC water annually.

SOURCE: https://www.catskillstreams.org/pdfs/SCSMP/4 history.pdf

## Notable Moments In Schoharie Valley History

Origina	I Stewards	Revolutionary War		Schoharie County I	Schoharie County Is Formed			
Kanien'kehá:ka (People of the Flint) reside in the valley. Throughout the valley there are many villages set up along Schoharie Creek and surrounding areas.		Developed for agricult considered a bread bas amount of wheat prod Revolutionary War.	ulture, the Schoharie Valley was asket of the colony because of the oduced even during the American April 6, 1795 - Schoharie County was formed after being part of Albany. The county was named Schoharie after the principal stream that runs through the territory of which it is comprised.					
•	1700	•	1784	•	1801			
Pre-Cont	tact	1775-1783	•	1795				
	First Colonists Settle In The Valle Though the valley was "claimed" by the Ei	₽ <b>y</b> nglish,	First Recorded Flood		Boundaries Of The County Are Defined			
Palatine Germans settled in the Valley and began to farm in 1713. In 1723, a group of fifteen German Palatine families left the Schoharie Valley of New York to settle in the Tulpehocken region of present Berks County, PA.		The river and tributaries have many times overflowed the flats along their courses and done a vast amount of damage in the destruction of crops, land and buildings. The first of which we have any definite knowledge was in the spring of 1784. The damage was so great the people petitioned to the Legislature to be exempt from taxation.		In 1836 a portion of Greene county was annexed				

## Notable Moments In Schoharie Valley History

Erie Canal

In 1817 the construction of the Erie Canal began. Within six years the section of the canal through Fort Hunter at the convergence of the Mohawk River and Schoharie Creek was completed. The area is now Schoharie Crossing State Historic Stie is one of the only sites where the Original Erie Canal remains.

#### **Schoharie Reservoir Created**

Gilboa, New York was purchased and its residents evacuated through condemnation.Site preparation destroyed most of the area's trees and buildings up to the water line. The dam was built during the early 1920s out of stone bricks. Flooding was completed in 1924.



## Notable Moments In Schoharie Valley History

#### The Nestle Crunch Bar Is Born

Henri Nestle, a German-born Swiss confectioner, built the Nestle factory in 1900 to make condensed milk and baby food. He chose Fulton for the factory because of its abundance of dairy farms, which supplied the plant with milk. In 1938, the plant produced the first Nestle Crunch bars. The plant closed in 2003.

#### **Smoke Screen Generator Test Site**

Site of the successful test of a smoke screen generator by scientists from G.E., June 24,1942. 50,000 prototypes were used by the military in World War II. Scientists observed the success of the project from atop Vroman's Nose.

#### Hurricane Irene

The 120-foot (37 m) high concrete and stone brick Gilboa Dam was completed in 1926.0ver time the dam eroded to where it posed a potential threat to those living downstream. Fossils of some of the Earth's oldest trees – the Gilboa stumps – were discovered in the 1850s, 1920 during dam construction and again in 2010 and were brought to the State Museum.



#### **Formation of Centralized School District**

Schoharie Central School District officially formed which included seventeen of the smaller districts. For the centralization, seven buses were purchased with the state paying one-half the cost of gasoline and the buses. The enrollment at that time was 655 students, grades 1-12.

#### Bridge Collapse Over Schoharie Creek

On April 5, 1987, it collapsed due to bridge scour at the foundations after a record rainfall. The collapse killed ten people. The replacement bridge was completed and fully open to traffic on May 21, 1988. The failure of the Schoharie Creek Bridge motivated improvement in bridge design and inspection procedures within New York and beyond.[2]

#### **Rematiration & Return**

60 acres of farmland, once known as Borringer's Berry Farm in the heart of the valley and the location of an ancestral Kanien'kehá:ka village was rematriatied to ancestors of its original stewards. Land healing efforts have commenced to return the land to its natural state under Indigenous stewardship practices.

## Places of Historical & Cultural Interest

#### PLACES OF INTEREST

- <u>Visit Schoharie Art & Culture</u>
- <u>Schoharie Caverns Nature Preserve</u>
- Iroquois Museum
- Gilboa Dam
- Howe Caverns
- <u>Schoharie Creek Preserve</u>
- Landis Arboretum
- Old Stone Fort Museum
- <u>Schoharie County Beverage Trail</u>
- <u>Schoharie County Sunshine Fair</u>
- Palatine House
- Blenheim Covered Bridge
- Sharon Springs Harvest Festival
- <u>Secret Caverns</u>



# 

### **Schoharie Valley Economy & Population**

### **Schoharie Economy & Population**

According to the 2023 Census estimates, the population of Schoharie County is 30,105, over 621.8 square miles.

Source: https://www.census.gov/quickfacts/schohariecountynewyork

ADDITIONAL RESOURCES :

- <u>Schoharie County Census of Agriculture (2017)</u>
- <u>Schoharie County Agriculture & Farmland Protection Plan (2020)</u>
- Greene County Agriculture & Farmland Protection Plan

Source : https://censusreporter.org/profiles/05000US36095-schoharie-county-ny/

#### Income

\$37,280 ±\$1,421

#### Per capita income

**about 80 percent** of the amount in New York: \$47,173 ±\$209

**about 90 percent** of the amount in United States: \$41,261 ±\$112

#### Age

### **45.7** Median age

about 20 percent higher than the figure in New York: 39.3

**about 20 percent higher** than the figure in United States: 38.5

### **\$71,479** ±\$2,832

Median household income

about 90 percent of the amount in New York: \$81,386 ±\$350

a little less than the amount in United States: \$75,149 ±\$152

Population by age range



#### Household income



#### Population by age category



Source : https://censusreporter.org/profiles/05000US36095-schoharie-county-ny/



#### **Race & Ethnicity**



Households

Sex

#### **12,283** Number of households

New York: 7,604,523 United States: 125,736,350

### **2.3** Persons per household

about 90 percent of the figure in New York: 2.6 about 90 percent of the figure in United States: 2.6



Source : https://datausa.io/profile/geo/schoharie-county-ny#demographics

#### 🗏 View Data 🛛 Save Image 🐇 Share / Embed 🎽 Add Data to Cart Race and Ethnicity Multiracia White (Non-Hispanic) THE 3 LARGEST ETHNIC GROUPS IN SCHOHARIE COUNTY, NY (Non-1. White (Non-Hispanic) 27.3k ± 262 2. Two+ (Non-Hispanic) 714 ± 185 3. White (Hispanic) 437 ± 95 2.39% Black or African 3.5% American (Non-Hispanic) HISPANIC POPULATION 1.05k people 1.35% Asian In 2021, there were 38.2 times more White (Non-Hispanic) (Nonresidents (27.3k people) in Schoharie County, NY than any other Hispanic) race or ethnicity. There were 714 Two+ (Non-Hispanic) and 437 0.96% White (Hispanic) residents, the second and third most common Other (Nonethnic groups. Hispanic) 0.63% 3.5% of the people in Schoharie County, NY are hispanic (1.05k 91% people). White Other 🚺 Asian Multiracial Black or African American American Indian & Alaska Native Native Hawaiian & Other Pacific Islander The following chart shows the 7 races represented in Schoharie County, NY as a share of the total population.

2013 2014 2015 2016 2017 2018 2019 2020 2021

Data from the Census Bureau ACS 5-year Estimate.

Source : https://datausa.io/profile/geo/schoharie-county-ny#demographics

#### Presidential Popular Vote Over Time

2020 ELECTION RESULTS

- Donald J. Trump (62.6%)
- Joseph R Biden Jr. (33.8%) Democratic Party
- Jo Jorgensen (1.78%) Libertarian Party

In the 2020 presidential election, the popular vote in Schoharie County, NY went to Donald J. Trump with 62.6% of the vote. The runner-up was Joseph R Biden Jr. (33.8%), followed by Jo Jorgensen (1.78%).

The following chart shows the popular vote results in Schoharie County, NY for each registered party from 1976 to 2020.

Data from the Federal Election Commision County Presidential Election Returns 2000-2020.



### Schoharie County - Agricultural Districts



Source : https://cugir.library.corn ell.edu/catalog/cugir-007 986

Source : https://www.schoharie-ida.com/economic-data.html

#### **Business Quick Facts:**

Private Non-Farm Establishments	573 (2012)
Private Non-Farm Employment	5,440 (2012)
Private Non-Farm Employment Change	+1.4% (2011-2012)
Non-Employer Establishments	1,862
Merchant Wholesaler Sales	\$36,031,000 (2007)
Retail Sales	\$268,923,000 (2007)
Accommodation and Food Services Sales	\$21,552,000 (2007)
Retail Sales Per Capita	\$8,422 (2007)
Building permits	31 (2012)
2007-2012 American Community Survey	

#### **Geography Quick Facts:**

Land Area	621.82 Square Miles
Persons Per Square Mile	52.7 (2010)
FIPS Code	095
Metropolitan Statistical Area	Albany-Schenectady-Troy, N.Y.
2007-2012 American Community Survey	

Source : https://datausa.io/profile/geo/schoharie-county-ny#demographics

#### Occupations

All	\$
Workforce	\$
Value	\$

13.6k 2021 VALUE ± 597 -6.28%

From 2020 to 2021, employment in Schoharie County, NY declined at a rate of –6.28%, from 14.6k employees to 13.6k employees.

The most common job groups, by number of people living in Schoharie County, NY, are Management Occupations (1,538 people), Office & Administrative Support Occupations (1,526 people), and Sales & Related Occupations (1,109 people). This chart illustrates the share breakdown of the primary jobs held by residents of Schoharie County, NY.

Management Occupations	Health Diagnosing & Treating Practitioners & Other Technical Occupations	Computer & Mathematical Occupations	Business & Financial Operations Occupations	Food Preparation & Serving Related Occupations	Healthcare Support Occupations	Construction & Extraction Occupations
11.3%	3.82%	3.57%	3%	4.89%	3.64%	
Education Instruction, & Library Occupations	Health Technologis & Technicians 1.74% Community & Social Service Occupations 1.59%	ts Arts, Design, Entertainment, Sp & Media Occupatin 1.55% Architecture & Engineering Occupa 1.33%	Life, 0.586%	Building & Grounds Cleaning & Maintenan Occupations 2.73% Personal Care & Service Occupatio	Ce Law Enforcement Workers Including Supervisors 1.29% Fire Fighting & Prevention, & Other Protective Survey Survey Survey	8.02% Installation, Maintenance, & Repair Occupations
Office & Administrati	ve Sale	Sales & Rela		2.54%	Including 1.16%	4.89%
Support Occupations Occ		upation 8.13%	IS	Productio Occupatio	n Dns	Transportation Occupations 4.84%

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Source : https://datausa.io/profile/geo/schoharie-county-ny#demographics

#### Employment by Industries

Workforce		\$
All		\$
Value		ŧ
13.6k	-6.28%	

2021 VALUE ± 597 -6.28% 1 YEAR DECLINE ± 6.7%

From 2020 to 2021, employment in Schoharie County, NY declined at a rate of –6.28%, from 14.6k employees to 13.6k employees.

The most common employment sectors for those who live in Schoharie County, NY, are Health Care & Social Assistance (1,881 people), Educational Services (1,757 people), and Retail Trade (1,658 people). This chart shows the share breakdown of the primary industries for residents of Schoharie County, NY, though some of these residents may live in Schoharie County, NY and work somewhere else. Census data is tagged to a residential address, not a work address.

	13,649 Workers						
Health Care & Social Assistance	Construction	Accommodation Profes & Food Services Techn		ssional, tific, & ical Services			
13.8%	10 50%	4.86%  4.6    Arts, Entertainment, & Recreation  Administrative & Sugman & Swight & Sugman & Swight		4.65% § Support & Waste ervices 75%			
Educational Services	Manufacturing	Transportation & <sup>Utili</sup> Warehousing		Agriculture, Forestry, Fishing & Hunting			
12.9%	8.08%	Other Services, Exce Public Administratio	pt Wholesal				
Retail Irade	Public	5.14%		Trade			
12.1%	Administration	Finance & Insurance 3.65%	Real Estate & Rental & Leasing 1.06%	1.93% Information 1.53%			
🛨 📼 🛕 🚅 🏭 🚳 🎝 🛤 🖕 🕼 💷							

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2013 2014 2015 2016 2017 2018 2019 2020 2021

Source : https://datausa.io/profile/geo/schoharie-county-ny#demographics

#### Median Earnings by Industry

\$48,057 median earning men ± \$4,927 \$32,674 MEDIAN EARNING WOMEN ± \$2,463

The industries with the best median earnings for men in 2021 are Information (\$137,931), Transportation & Warehousing, & Utilities (\$67,500), and Public Administration (\$66,417).

The industries with the best median earnings for women in 2021 are Construction (\$53,750), Wholesale Trade (\$52,222), and Finance & Insurance, & Real Estate & Rental & Leasing (\$51,646).

Data from the Census Bureau ACS 5-year Estimate.



# 

### **Case Studies**

## <sup>\_</sup> Case Studies

- Introducing the Bioregional Learning Center in South Devon, UK
- Salish Sea Bioregional Marine Sanctuary
- <u>Green and Blue Infrastructures As The Structure</u> <u>Of A Bioregion: The Case Of The Pontina</u> <u>Bioregion</u>
- <u>Integration of Biodiversity Conservation in</u> <u>Regional Natural Resource Management</u> <u>Planning : Rural Case Study</u>
- <u>Biodiversity Conservation At The Bioregional</u> <u>Level: A Case Study From The Burt Plain</u> <u>Bioregion of Central Australia</u>
- <u>Geographic Expression of Social Values in</u> <u>Bioregional Planning: A Case Study of the</u> <u>Palouse</u>

- <u>Bringing the Food System Home:</u> <u>Report of the Okanagan Bioregion</u> <u>Food System Project</u>
- <u>Territorial Inequalities, Ecological</u> <u>and Material Footprints of the Energy</u> <u>Transition: Case Study of the</u> <u>Cantabrian-Mediterranean Bioregion</u>
- <u>Creating Healthy and Just Bioregions</u>

# 

### Frameworks

## **Points of Consideration**

- Formation of local action group encompassing local stakeholders including farmers/local businesses, conservation groups, elected officials, local educational institutions ...
- Determination of the bioregion area, and the characteristics of the area including nature, culture, economy, community what make sit unique, what is the common thread, how does it all connect back to nature?
- Description of the socio-economic situation of the region
- SWOT analysis of the region collection of local development needs
- Identifying action topics, and lead projects
- Sustainable development or conservation of natural resources and cultural heritage
- Forming a unifying identity of the bioregion, utilizing this for marketing the bioregion, businesses/ag, recreational, places of interest within the bioregion (ex: logo used on goods produced within the bioregion, street or recreation area signs that feature the logo pointing to a place of importance, tourism brochures etc.
- Climate protection, adaptation and resilience strategies and projects

- Strengthening existing functions and structures for the common good
- Regional anchoring and planned networking strategies
- Impact measuring and monitoring
- Implementation structures: collective processes, responsibilities, decision making powers, organizational structure
- Financing plans for projects
- Reorganizing systems/structures that honors the land and our ecological reality
- Exploring"degrowth" for "regrowth" strategies within a bioregion for the wellbeing of environment and society how can these be applied in a rural setting? What benefits does this bring to the society within the bioregion and its local ecologies? What are the barriers or risks? How does degrowth factor into a regenerative economy?
- Disasters in the valley as uniting feature of bioregion designation (flooding of Schoharie Creek) Community driven recovery and Transition scenario planning alternative to disaster capitalism

# 

## **Regional Identity**

## Examples of (Bio)Regional Identity

These examples are from one of the LEADER regions in Austria. The region of Pielachtal identified the Dirndl Berry as the symbol for the region, as it grows in abundance there and has ties back to the region's cultural history. The berry logo, and associated colors can be seen on signs for businesses in the region, travel brochures for the region, street signs and road signs designating places of interest in the region, and product labels that come from the region. The Mostviertel (name of the region) is also used.

Each region that has been designated in Austria, has its own branding - the following link displays an interactive map for each regions webpage displaying the associated branding the region has chosen to best represent itself.

#### LINK:

https://www.zukunftsraumland.at/seiten/34?fbclid=IwAR1m6xT qNR0DTSuTVKeOIWYS2XIKX2vRV-SdoKou HsvV4Z6ioTOf1t3Gcs aem Ac8nVFhZEMNClQidtEHs FZCfoTqDpDTUsRZo3DUQ0prXCH Fv-DE55duE4u2lZFGE9DZTfG6zkbM3gbtJFQ1qjcH



### **Potential Community Partners & Stakeholders**

#### **CONSERVATION/ENVIRONMENTAL GROUPS**

- <u>Schoharie River Center</u>
- <u>Schoharie County Conservation Assoc.</u>
- <u>Schoharie Land Trust</u>
- Ostego Land Trust
- Open Space Institute
- Northeast Wilderness Trust
- <u>New York Forest Owners Association</u>
- <u>Riverkeeper</u>
- <u>The Nature Conservancy</u>
- Center For Earth Ethics
- Delaware-Ostego Audubon Society
- Mohawk Hudson Land Conservancy
- <u>Catskill Center</u>
- <u>Green County Soil & Water Conservation</u>
  <u>District</u>
- <u>Catskill Watershed Corporation</u>

- Watershed Agricultural Council
- <u>Center For Watershed Protection</u>
- <u>Landscape</u> Interactions

#### **EDUCATIONAL INSTITUTIONS**

- <u>SUNY Cobleskill</u>
- <u>Cornell Cooperative Extension</u>
- <u>Center for Native Peoples and the</u>
  <u>Environment SUNY ESF</u>
- Institute For Rural Vitality SUNY
  Cobleskill

### **Potential Community Partners & Stakeholders**

#### **REGIONAL TOURISM/ECO TOURISM**

- <u>Schoharie River Center</u>
- <u>Schoharie County Conservation Assoc.</u>
- <u>Schoharie Land Trust</u>

#### LOCAL, STATE & FEDERAL AGENCIES/ENTITIES

- <u>New York Farm Bureau</u>
- <u>Schoharie Soil & Water Conservation District</u>
- <u>Town of Schoharie</u>
- <u>NYSDEC</u>
- <u>Schoharie County Office of Agricultural</u>
  <u>Development</u>
- <u>Schoharie County Planning and Community</u>
  <u>Development Services</u>

### **Potential Community Partners & Stakeholders**

#### LOCAL FARMS & BUSINESSES (Schoharie County)

- Iotsi'tsíson (Skywoman's) Forever Farm
- <u>Abba's Acres</u>
- <u>Barber's Family Farm</u>
- <u>Beekman 1802 Farm</u>
- Black Willow Pond Farm
- Broome Animal Sanctuary
- Buck Hill Farm
- <u>Cold Spring Farm</u>
- <u>Cotton Hill Creamery</u>
- Cowbella Creamery
- Empty Pockets Ranch
- <u>Guernsey's Schoharie Nursery</u>
- Heather Ridge Farm
- Hessian Hill Farm
- <u>Highland Hollow Farm</u>

- <u>Hop House Farm</u>
- Horton Hill Farm
- Jubilee Farms
- Maple Hill Farm
- <u>Mickel Hollow Maple & Honey</u>
- Middleburgh Winery
- <u>Mustang Valley Sanctuary</u>
- North Road Sugarworks
- <u>Parson's Vegetable Farm</u>
- Perrones Farm & Produce
- <u>Pick A Pumpkin</u>
- Sap Bush Hollow Farm
- Serenity Valley Farm
- <u>Shaul Farm</u>
- <u>Slate Hill Flower Farm</u>

- <u>Stone House Farm</u>
- <u>Sunnycrest Orchards</u>
- <u>Terrace Mountain Orchard</u>
- <u>The Carriage House Cafe &</u> <u>General Store</u>
- <u>The Carrot Barn Schoharie</u> <u>Valley Farms</u>
- <u>The Dancing Farm</u>
- Weathertop Farm
- Wellington's Herbs & Spices
- Westkill Farm

### Resources

#### **MAPS - WATERSHED, GEOLOGY, BIOLOGY**

- EcoRegions of New York State
- <u>Schoharie Watershed Parks & Preserves</u>
- <u>Schoharie Watershed Recreation</u>
- Panther Creek Watershed
- USGS Topo Maps Schoharie
- <u>Schoharie Creek Topo Maps</u>
- <u>3D Terrain Map Schoharie Valley</u>
- Land Cover Data Set Map Schoharie Valley
- <u>Regrid Land Parcel Information</u>

#### **REPORTS - WATERSHED & ECOLOGY**

- <u>2017 Schoharie Creek SubWatershed Basin -</u> <u>Cornell Univ.</u>
- <u>Catskill Streams Schoharie Creek Management</u>
  <u>Plan</u>
- <u>Summary Of Schoharie Wildlife & Fishery</u>
- <u>DEP Schoharie Resevoir</u>
- <u>Ecological Communities of New York State</u>
- <u>2018 Schoharie Creek Watershed Conservation</u>
  <u>Assessment</u>



### ECONOMY - ECOTOURISM, AGRICULTURE & OTHER OPPORTUNITIES

- <u>Visit Schoharie Farms Stands & Agrotourism</u>
- <u>Gilboa Museum</u>
- <u>Visit Schoharie Natural Attractions</u>
- <u>Schoharie Economic Enterprise Corp</u>

#### ADDITIONAL HISTORICAL & CULTURAL RESOURCES

• <u>Gilboa Fossils</u>

#### **ADDITIONAL GEOLOGY RESOURCES**

- <u>Karst of the Schoharie Valley</u>
- <u>Timelines in the Schoharie Valley</u>
- <u>Upper Schoharie Watershed Geology</u>
- Physical Geology of the Schoharie Watershed

# Resources

#### RESOURCES ON DEGROWTH STRATEGIES/REGENRATIVE ECONOMY

- <u>Degrowth and agri-food systems: a research agenda for</u> <u>the critical social sciences</u>
- <u>Degrowth: A Socially and Ecologically Just Economic</u> <u>Alternative?</u>
- <u>Exploring degrowth policy proposals: A systematic</u> <u>mapping with thematic synthesis</u>
- <u>Degrowth & Strategy: how to bring about</u> <u>social-ecological transformation</u>
- <u>Degrowth strategies: thinking with and beyond Erik</u> <u>Olin Wright</u>
- <u>Strategies for Degrowth</u>
- Degrowth 101: Everything You Need to Know
- <u>The transition towards a bioregional model: the case of</u> <u>Friuli Venezia Giulia</u>
- <u>Degrowth in Practice: Developing an Ecological Habitus</u> within Permaculture Entrepreneurship

- <u>At the Intersection of Permaculture and</u> <u>Degrowth</u>
- Degrowth and critical agrarian studies
- <u>Indigenous Degrowth? Recognizing Visions</u> of What a World Beyond Growth Could <u>Actually Look Like</u>
- <u>Food for thought: Regenerative agriculture</u> <u>is degrowth</u>
- <u>Bioeconomy and Climate Action in Rural</u>
  <u>Areas</u>

#### **ADDITIONAL BIOREGION RESOURCES**

- <u>The Story of Place: Co-Creating a Bioregional</u> <u>Macroscope</u>
- <u>OneEarth</u>
- <u>Terran Collective</u>
- <u>Legacy Project</u>