The Myth of the Dry Fly Hero: Its Rise and Fall in the Upper Peninsula of Michigan

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Part I - The Myth of the Dry Fly Hero and Its Dissemination

The myth of the dry fly hero originated in Victorian Britain, a period of intense scientific optimism. Prior to its origin, angling was nothing more than a pleasant pastime and cheap source of protein available to most English citizens. During the late Victorian era, moneyed anglers, wealthy industrialists and English aristocrats, worked to transform angling, especially angling for salmon, trout and grayling, into a scientific endeavor. Instead of a relaxing pastoral experience, scientific angling became an expensive hobby practiced only by the wealthiest.¹

The principal advocate of scientific angling was Frederic Halford. Son of a successful British industrialist, Halford trained as an engineer and worked for a time in his father's textile and clothing manufacturing businesses. Pursuing a life based on science was Halford's passion. An angler from childhood, he channeled his passion for science into improving every aspect of fly fishing. In 1886 his first book, *Floating Flies and How to Fish Them* became a world wide sensation winning over many fly fishermen to dry fly fishing. A second book, *Dry Fly Fishing - Theory and Practice*, published three years later, occasioned Halford's retirement from business, freeing him to devote himself entirely to developing his theories of dry fly fishing. After retirement he published five more books and dozens of magazine articles, all extolling the merits of dry fly purism.²

Taken together Halford's books sketch out in great detail the mythic dry fly hero. Closely reflecting Halford's own person, the hero is a wealthy, leisured white male with a scientific bent who associates with other wealthy, leisured white males to pursue fishing dry flies upstream to rising trout. Halford joined England's prestigious Houghton Fly Fishing Club. As one of its twenty members, he
fished the club’s private waters on the Test River for more than fifteen years. What he learned fishing the Test formed the experiential basis for his books and magazine articles. In 1884 Halford co-founded the Flyfisher's Club, an exclusive London social club for fly fishermen. Two fishing magazines, The Field and The Fishing Gazette, published Halford's articles and any essays submitted by his followers. The owners and editors of both magazines were either fellow members of the Houghton Club or the Flyfisher's Club or both. All practiced dry fly fishing to some degree.³

Halford's dry fly revolution produced many technological improvements. The forged steel, eyed fish hook was one. Prior to Halford, all fishing flies were tied on snelled hooks, hooks with eyes fashioned from gut. Snelled hooks were affixed directly to short, looped gut leaders. With the invention of the forged steel, eyed hook, artificial flies and leaders could be switched out as fishing conditions demanded. Also the life of flies tied on eyed hooks was not limited to the life span of the more fragile gut which rotted quickly with use and age. Halford's influence was also felt in the production of floating silk fly lines, longer leaders, calibrated gut leader sections, and more refined gut leader tippets. His own contributions to fly tying were many, beginning with a newly engineered fly tying vise. Most fly tiers of his era tied by hand.⁴

Very early in his career Halford concluded that the future of dry fly fishing depended on the production of artificially raised trout. After a season, club waters became depleted. New, mature fish were needed to replace the ones killed by anglers. Because the British government did not propagate trout, most fishing clubs of his day managed their own hatcheries. Halford managed the hatchery operations of the Houghton Club and wrote about it in great detail. He identified better strains of trout and searched for the most nutritious foods to feed them. He also experimented with more efficient designs of troughs and stews in which to raise newly hatched fish.⁵

The scientific optimism flourishing in Victorian Britain had its enthusiastic counterpart in America's Gilded Age. Halford's mythic dry fly hero made the trip across the Atlantic with ease, and the United State's wealthy, university educated, fly fishing white males gave it a warm welcome.
Elevating the dry fly purist to mythic status in the United States became the work of two fishing clubs and one dedicated angler. The two clubs were the Brooklyn Flyfishers Club and the Anglers' Club of New York. The dedicated angler was George La Branche.

In 1895 a mixed group of Brooklyn politicians and merchants founded the Brooklyn Flyfishers Club. The politicians, Granville Harman, Joseph Bacon, and George Jackson were community leaders who held elected offices in the borough of Brooklyn. They were staunch members of the Union League Club where the club held its annual meetings. Several respected fly fishermen were included among the club's ranks. Henry B. Wells wrote *Fly Rods and Fly Tackle*, an instruction manual for beginners. His book described fly fishing equipment, casting, and the manipulation of flies. Another well respected angler, Chancellor Gould Levinson won prizes locally for his casting skills and is remembered for inventing a creel with an automatic self-closing door. Lody Smith, another prominent member, was known as a builder of excellent bamboo fly rods.6

Initially few Flyfishers committed wholeheartedly to dry fly fishing. Henry Wells wrote, “the angler considers his pursuit as a fine art, of which merely to obtain fish is but a small part – these can be obtained more cheaply and in greater abundance in the market. It is the way the thing is done . . . .”7 For Wells “the way the thing is done” was fishing dry flies upstream exclusively. At the time of the club's formation, Wells was an outlier. Most of the club's fly fishermen started the day casting wet and dry flies but changed to bait when flies failed. The first club president, Charles A Bryan, the general manager of the Equitable Life Insurance, was best remembered as the inventor of a “simple contrivance to prevent the bait falling out should the cover be left off the bait box.”8 During an interview James Rice, the club secretary, stated, “Fishing is the way I spend what time I am able to take away from business . . . I get my best results among the mountain streams of the Pennsylvania. The season opens there about April 15 and I tread the streams through Monroe County. I use bait when the fly won't work. I use the common garden worm and get some fine sport out of it.”9

The Flyfishers leased a few farm buildings and some frontage on the Little Beaverkill River in
the Catskills. They turned the farm buildings into a club house and mess hall and annually stocked their stretch of river with hatchery trout. Opening Day the members, all males, assembled to fish and celebrate the new season. As with the many fishing clubs of this period the Flyfishers did not offer women membership nor did they invite them to social events.10

About the turn of the Twentieth Century, the Flyfishers disappeared from public attention. A few decades later they reemerged as dry fly purists. Alfred Miller, a reporter for the Wall Street Journal described them as “the loyal old guard, the final vanishing remnant of the old-fashioned American dry-fly purists . . . . Here, as nowhere else, is exemplified the pure gospel of American dry-fly fishing.” As one member stated about another, “. . . he had not fished a wet fly in more than thirty years, and he is typical.”11 The conversion of the Flyfishers to dry fly purism was the work of the Anglers' Club of New York, the younger brother of the Flyfishers. The Anglers' Club was the larger of the two with over seventy members compared to the twenty-five self imposed limit set by the Flyfishers. From their inception the two clubs shared members. When the Anglers' Club was founded in 1906, four Flyfishers were among its original membership. One of the founders of the Anglers' Club, Chancellor G. Levison, was also a founding member of the Flyfishers. The Anglers' Club promoted a more rigorous fly fishing. The Anglers' Club sought “to promote interest in scientific angling,” namely, upstream dry fly fishing.12

The Anglers' Club first came to prominence as a casting club sponsoring tournaments in New York's Central Park. Initially club members were successful but by 1920 they lost their national dominance, bested by teams from Chicago, Newark, Grand Rapids, Kansas City and Bloomington, Indiana. The Club could not call any property or water its own. Thus, unlike the Fly Fishers with their own home water, the Anglers' Club never felt compelled to field a trout stocking program. They approved of the State of New York replenishing trout streams with hatchery raised trout, but they chose to look on from the sidelines when it came to funding or managing such an endeavor.13

With the Club's interest in casting tournaments fading and without club waters of its own, the
Anglers' Club became a congenial lunch club located in New York's financial district. Doggedly pursuing a neutral position on any controversial issue, only polite conversation was allowed. As one member observed,

“The Club is essentially a simple lunch club. It has no fishing facility of its own and makes it a point in never taking a position, as a club, on any conservation or legislative matter which is apt to generate controversy. This is because the Club's membership is such a cross-section of anglers – running the gamut from buck privates in the rear ranks to captains of industry – that it would be impossible for the Club to speak for all of them.”\(^{14}\)

Some of the Club's “captains of industry” led companies later found responsible for polluting American waterways.\(^ {15}\)

With the Anglers' Club losing its public face, its reputation as an elite casting club, a member stepped forward to lead the club in a new direction. That member was George La Branche, an angler who embodied Halford's mythic dry fly purist. A Wall Street stockbroker, an anglophile, and head of the Anglers' Club Membership Committee, La Branche followed Halford's precepts. As head of the Membership Committee, La Branche ensured that membership in the Anglers' Club was extended where possible to Princeton educated, committed dry fly anglers who had an interest in entomology and a flair for writing. This group included Edward Hewitt, Eugene Connett, Alfred Miller, and later Ernest Schweibert. Together they and other club members revised the history of fly fishing for trout and salmon, recasting it as an expensive, extremely difficult sport imported here from the pure chivalric traditions and exclusive fishing clubs of wealthy English aristocrats, professionals, and merchants.\(^ {16}\)

Halford's and the Anglers' Club's myth of the erudite, gentlemanly, white male dry fly fisher gripped American trout fishing for decades. Its most lasting contribution was the dubious hierarchies it created among fish species and fishing methods. It put dry fly fishing for trout and salmon ahead of wet fly, bait and spin fishing. Snobbery among fly fishing's elite followed. In *A River Runs Through It*, Norman Mclean explains the hold the myth had on him and his family. He relates, “...our father was a Presbyterian minister and fly fisherman who tied his own flies and taught others. He told us about Christ's disciples being fishermen, and we were left to assume, as my brother and I did, that all first
class fishermen on the Sea of Galilee were fly fishermen and that John, the favorite was a dry fly fisherman.” Norman's brother reported after reading Walton's *Compleat Angler*, “Izaak Walton...is not a respectable writer. He is an Episcopalian and a bait fisherman.”

The Flyfishers and the Anglers' Club cultivated magazine and book publishers with the aim of producing articles and books promoting the myth of the dry fly hero. Eugene Connett, one time president of the Flyfishers and longtime member of the Anglers' Club founded Derrydale Press which republished Henry Well's *Fly Rod and Fly Tackle* and LaBranche's *The Dry Fly and Fast Water* and offered a host of new works, many by club members. Later Connett sold Derrydale to Nat Wartells who owned Van Nostrand Publishing Company and Crown Publishing, both of which houses with Derrydale continued to publish books promoting the dry fly purist. One of Crown's editors, Nick Lyons bought Derrydale from Wartell and continued the tradition by starting a series of book publishing houses specializing in angling subjects. From its earliest days the Anglers' Club fostered close relationships with the *New York Times* and field sports magazine such as *Trout, Forest and Stream, Field & Stream, Outdoor Life, Sports Afield*, and *Fly Fisherman* where the essays of its members often appeared.18

Part II – The Dry Fly Hero in the Upper Peninsula

News of the dry fly hero reached the Upper Peninsula through books and fishing magazines. In the late 1880s Halford's books first spread the news of the dry fly hero; not much later national sports magazines followed up with glamorized accounts of dry fly fishing. Many Michigan sportsmen subscribed to one or more sports magazines; Upper Peninsula newsstands and sports shops carried them as did barber shops. Doctors and dentists offices set them out in their waiting rooms for their male customers.19

In 1873 Charles Hallock, a close friend of Theodore Roosevelt and staunch supporter of his
conservation movement, started *Forest and Stream*, the oldest and for a time the most influential field sports magazine. With the success of *Forest and Stream*, other sports magazines opened and quickly drew millions of subscribers. The dominant field sports magazines were *Sports Afield, Field & Stream*, and *Outdoor Life*, founded in 1887, 1895 and 1898 respectively. *Forest and Stream* merged with *Field & Stream* in 1930. Except for *Sports Afield* and *Outdoor Life*, the other magazines mentioned here headquartered in New York City. *Sports Afield* and *Outdoor Life* headquartered first in Chicago and Denver respectively and emphasized Midwestern and Western fishing and hunting subjects.20

Magazines with smaller readerships also dealt with outdoor sports. *Outing* covered a wide variety of sports. First a cycling magazine, it moved into shooting, casting, hiking, camping, field sports, boating, and sports clubs news. Among its regular features was a section reporting field sports in Wisconsin, Michigan, the Upper Peninsula of Michigan, and on Lake Superior. *Outing* can claim the distinction of carrying the first report of Halford style dry fly fishing in the upper Midwest. In 1901 Emerson Hough, its midwestern editor, portrayed Mr. William Cooke Daniels, a resident of Denver and a veteran dry fly fisherman. Daniels was a devotee of British style dry fly fishing. He leased a beat, a stretch of river, on the Itchen River, a premier English chalk stream often fished by Halford and his friends. The Itchen was governed by the same rules which governed the Test, i.e., only dry flies fished upstream to rising trout. Searching all over the United States to find a river which duplicated the Itchen, he chose the Prairie River, south of Rhinelander, Wisconsin. He built a lodge there and spent summers fishing it with dry flies, no doubt appearing in his forays the heroic embodiment of the dry fly purist.21

The founding of the Anglers’ Club was intimately tied to *Field & Stream*. The Club’s first meeting took place in the offices of *Field & Stream*, and two of its editors, Edward Cave and Perry Frazer, were the founding members with La Branche. Endorsing the aims of the Anglers’ Club, *Field & Stream* put scientific angling front and center publishing stories about the mythic dry fly hero and its origins in the exclusive fishing clubs of wealthy British anglers.
La Branche joined with Emlyn Gill, a widely recognized fishing author of the period, to spread the dry fly myth in the pages of *Field & Stream*. Though generally extolling Halford's dogmatism, La Branche carved out for his American audience one exception to Halford's precepts. This was fishing the dry fly in “fast” water, and it became his lasting contribution to dry fly purism. The technique La Branche developed for fishing in “fast” water was repetitive casting to a single trout to trigger a rise. Gill, one of foremost fishing authors of his day, was a close friend of La Branche, fishing with him in the Catskills. *Field & Stream* carried Gill's articles explaining dry fly fishing for the neophyte. As with La Branche Gill departed from Halford by suggesting that the dry fly angler need not wait for rising trout to begin fishing. The American dry fly purist could be remain loyal to the myth even when fishing “the water” instead of “the rise.” La Branche's and Gill's articles were so popular that both were extended to book length and published. Gill's book *Practical Dry-Fly Fishing* appeared in 1912, La Branche's classic *The Dry Fly and Fast Water* a few years later.\textsuperscript{22}

*Forest and Stream* took a more nuanced approach. The dry fly craze was just beginning but instead of publishing articles devoted to selling scientific angling, the magazine published articles by Theodore Gordon, the fisherman universally celebrated as the Father of American Dry Fly Fishing. A favorite correspondent of Hallock, Gordon's *Forest and Stream* articles first appeared in 1906, a critical year in his life. It was the year tuberculosis forced him to stop working on Wall Street and move to Liberty, New York in the Catskills to be near his doctors at the Loomis Sanitarium for respiratory diseases.\textsuperscript{23}

Early associated with Halford and scientific fishing, Gordon remained in the public mind a representative of British style dry fly fishing even after he broke with it. Following his initial enthusiasm for all things Halford, Gordon fell out of love with scientific fly fishing. Before moving to New York, Gordon lived in Savannah where he read Halford's first two books, and began corresponding with him. Gordon experimented with Halford's methods on the Catskill's rivers. For a short period Gordon became a dry fly purist, but shortly concluded that while dry fly fishing was
effective on occasion, dry fly purism would not work day in and day out. He never doubted the worth of dry fly fishing, but he tempered his enthusiasm by recognizing its limits. The purism part he found unhealthy.  

Over the last nine years of his life, Gordon wrote fifty-eight articles for *Forest and Stream*. They cover every aspect of fly fishing, including dry fly and streamer fly fishing for trout and bass, not just in the Catskills but in Michigan, Wisconsin, New York, New England, and Pennsylvania. Some of his articles report current fishing conditions. Many deal with fly selection, presentation, fishing equipment mainly leaders and fly rods, and reflections on fly fishing methods. Not wishing to anger the purists, Gordon never attacked the myth of the dry fly hero. He just ignored it.

For years a steady stream of books and articles appeared in national sport magazines keeping the myth alive. A few examples will demonstrate its reach and longevity. In 1944 an article by Lee Wulff entitled, “The Conversion of Samuel Shinnix.” appeared in *Field & Stream*. Mr. Wulff, was an Anglers' Club member, Mr Shinnix, a Newfoundland fishing guide. Mr. Wulff won over Mr. Shinnix to dry fly fishing for Atlantic salmon in a fairly typical tale proving the superiority of dry flies over wet. The River of Ponds was Mr. Shinnix home water which he usually fished with Jock Scots and Silver Greys, traditional wet salmon flies. A fellow member of the Newfoundland Tuna and Swordfish Club accompanied Mr. Wulff, and a few days later another wealthy friend traveled up on his boat to join them. As befitting adherents to the myth, all fished dry flies with great success to the amazement of their guide and local anglers. Shinnix accepted Mr. Wulff's gift of dry flies at the end of their stay and used them afterwards. Or so this morality tale goes.

A 1979 issue of *The American Fly Fisher* featured Edward Hewitt, a long deceased member of the Anglers' Club. Hewitt, a wealthy descendant of inventor Peter Cooper, was a close friend of La Branche and was a former president of the Anglers' Club. He started what became the Mack Truck company, and many truck and automobile inventions were attributed to him. The article praises his innovative trout flies such as the Neversink Skater. In 2005, an article about John Atherton, long
deceased and a very successful illustrator and revered member of the Anglers' Club, appeared in *Eastern Fly Fishing*. The article praises his theories of trout fly design.\(^{27}\)

Over the last hundred years, dozens of books and hundreds of articles have extolled the dry fly hero. Anglers in the Upper Peninsula felt the tug of the myth, and a few even became dry fly purists. Private clubs did appear in the Upper Peninsula, but none were exclusively male clubs dedicated solely to dry fly fishing for trout and salmon. In practice Upper Peninsula fly fishing was a male endeavor. Lower Michigan did become home to several fly fishing clubs whose membership was restricted to wealthy white males.\(^{28}\)

What the myth did engender in anglers of the Upper Peninsula was the perception of hierarchies within angling. Some fish were better than others. Trout and salmon occupied the apex of the fish hierarchy. Below them fell musky, bass and pike, and below them fell whitefish and walleye, and below them fell rock bass, panfish, and suckers. Similarly anglers were sorted into a hierarchy based on their quarry. Apex anglers fished for trout and salmon. Within this group came another hierarchy based on their fishing method. In first place were fly fishers. Below them came spin fishers and bait fishers in that order. Within fly fishing anglers was a another hierarchy. At the very summit were committed dry fly anglers, the absolute purists, the acolytes of the mythic dry fly hero, adherents of British dry fly fishing traditions and code. Below the purists came those fly fishing anglers who did fish dry flies but who resorted also to wet flies, nymph and streamers. These anglers might console themselves with the fact that they filled their creels by the end of the day when the dry fly purists went home empty handed. Nonetheless they harbored nagging doubts about their achievement and suffered incipient feelings of shame. They had departed from the complex technicalities of chalk stream fishing as laid down by Halford and the Houghton Club and so were found wanting. Not only did they lack the competence to make dry flies work in all circumstances, but they had betrayed the dry fly hero.\(^{29}\)

The myth continues to hang on in popular literature. What I have offered is a sample demonstrating that the myth may be found anywhere, from magazines with millions of subscribers to
specialized outdoor magazines. So too the mythic hero, a wealthy, well-educated white male, committed to dry fly purism, fully decked out in the latest upscale equipment can appear anywhere at any time. By design his clothes and equipment sets him apart from other anglers.

Part III – The Demise of the Dry Fly Hero in the Upper Peninsula of Michigan

The dry fly hero needs a specially bred trout to make the myth come true. The numbers of such trout swimming Michigan rivers once counted in the millions but is now declining. The trout suitable for dry fly fishing appeared in the Upper Peninsula a few decades after the end of the United State Civil War. By the 1870s, field sports collapsed in New England and the Middle Atlantic states. Fewer big game animals wandered America's mountains, forests, and plains, and fewer fish swam in fewer healthy lakes and rivers. For hunters the solution was reforestation. For anglers the solution was more complex. While reforestation inhibited somewhat the cycle of drought and flood, curtailed erosion and contributed to cooling rivers and lakes, it did not address the problem of deteriorating water quality, namely, thermal pollution from dams and mill ponds, chemical pollution from acid factories, tanneries and such, and refuse pollution, sawdust and other industrial byproducts thrown into rivers to bury spawning grounds.30

Lacking the power to restore fish habitat, states were left with one remedy. Add more fish to declining fish stocks. Michigan and other states set out on an ambitious program of building fish hatcheries and distributing their product. New York purchased Seth Green's Caledonia brook trout hatchery in 1870 and immediately expanded the facility and added more hatcheries and trout species. In 1873 Michigan built a brook trout hatchery in Pokagon, Michigan. More hatcheries and species followed. Brook trout, rainbow trout, and brown trout were anglers' most requested choices, and Michigan propagated these annually in the millions.31
The popularity of dry fly fishing grew apace with the numbers of new hatcheries. The coincidence was not accidental. Not all trout strains thrive in the hatchery environment. The successful strains remain disease free, grow quickly, mature early, and survive transportation. Year after year state hatcheries raised specially selected strains until in the end they arrived at a fully domesticated fish. In the process of domesticating trout, hatcheries bred out key traits enjoyed by wild or feral trout. These missing traits disable domesticated trout leaving them on the one hand less able to fend for themselves in the wild and on the other hand the perfect quarry for the dry fly hero.

From its earliest attempts propagating trout and salmon, Michigan evaluated the success of its efforts under a number of rubrics, the principle one being cost. State stocking programs spent public money and so were expected to give a public accounting of that money. The goal was and is to have as many stocked fish end up in an angler's creel as possible. To arrive at accurate numbers, Michigan scientists worked for years refining their measurement techniques and became national leaders in that work. Year after year employing a wide array of measuring methods, Michigan found that the great majority of planted fish disappeared. Invariably the total of planted trout that disappeared was greater than the total harvested by anglers.

Over a hundred years, Michigan shaped and reshaped its management policies with a view to increasing the numbers of domesticated trout harvested by anglers. According to Gary Whelan, a Department of Natural Resources biologist, Michigan's use of propagated fish progressed through four eras. Significant policy changes demarcated each of these eras. The overall goal was the same, namely, to run cost efficient hatchery programs. This meant putting the most fish in anglers' creels while spending the least amount of state money. Broadly speaking the progression through the eras was anchored in the propagation of larger trout.

The first era, “The Fry and Johnny Fish-Seed Era” spanned the years 1873 through 1929. During this era Michigan propagated and distributed fry, newly hatched fish. It had neither the equipment nor technology to propagate mature fish. With thousands of lakes and thousands of miles of
Michigan streams depleted of fish due to the devastation brought by logging and industrialization, the state began planting millions of fry to re-establishing these fisheries. Some few fry plants were successful, but in most cases they were not.35

Michigan's next era, “The Sportfish For All Era,” spanned the years from 1930 to 1949. Towards the end of the Fish-Seed era, with better equipment and increased expertise, Michigan extended the hatchery stay of fish until they achieved fingerling size trout, three to four inch fish, five to six months old. Their greater size and age gave them a better chance of surviving than fry. Committed to basing its fish management programs, including its propagation programs, on the best and most current science, Michigan opened the Institute for Fisheries Research which sponsored scientific studies on all aspects of fish rearing. As an aid to this work Michigan opened the Hunt Creek Trout Research Station, a three mile brook trout fishery in Montmorency County. It was here Institute biologists studied the fate of hatchery raised trout after planting. Institute scientists performed ground breaking tests at Hunt Creek that led to refined methods for propagating, collecting and counting trout. Creel surveys, tagging, shocking, and netting underwent testing and were used in combination for more reliable results.36

In 1950, concerned with the great loss of planted hatchery fish, Michigan adopted new policy changes inaugurating “The Instant Fishery Era.” This era lasted fourteen years from 1950 to 1964 and was characterized by propagating and planting legal sized trout. This new policy did raise the numbers of hatchery fish returned to anglers' creels, but there were severe downsides. As Gary Whelan stated, “The hatchery goal at this time was to produce maximum numbers of legal-sized trout. This came at a considerable cost.”37 State money was diverted from propagating warm water species to growing legal sized brook, brown, and rainbow trout. Paying for these programs stressed Michigan resources to the point where the state was forced to trim its budgets by closing hatcheries. The outcome of the policies pursued during this era, however, did not solve the great losses of propagated trout after they were released into the wild. The more expensive the fish lost the greater the loss of state funds. This
program became quickly unaffordable.

Michigan's fourth fish management era, “The Holistic Era,” began in 1964. The Upper Peninsula is presently fishing through this period. Many policy changes shaped this era, especially the downsizing of programs propagating and planting legal sized trout. The new policy requires all fish stockings to return as many kilograms to the creel as are planted. This change sounded the death knell of the mythic dry fly hero. Unless a trout water could return to creel the same weight of fish as had been planted, the water was either struck from the program or the numbers of fish planted were reduced. As a consequence some waters planted with thousands of trout year after year before the Holistic Era receives now no fish or fewer fish. Each water struck is one less opportunity for dry fly heroes to prove their expertise. Some examples should suffice: Between 1945 and 1965 Barnhardt Creek near Ishpeming was planted with over 30,000 brook trout, 8,000 of which were legal sized trout. Since 1979 no brook trout have been planted in Barnhardt Creek. Between 1945 and 1965, nearby Green Creek was planted with almost 35,000 brook trout, 3,600 of which were legal sized fish. As with Barnhardt Creek no trout have been planted in Green Creek since 1979. Between 1945 and 1965 storied Hemmings Lake, first known as Flopper Pond and for a few years Frenchman's Pond, was planted with over 27,000 brook trout, about 1,600 of which were legal sized trout. This water has not been planted since 1979. Similarly between 1945 and 1965, more than 150,000 trout of all species were planted in the Peshekee River, almost 23,000 of which were legal sized fish. No trout have been planted in the Peshekee since 1979. Between 1945 and 1968, Hawkins Pond was planted with 7,325 brook trout, 1,125 of which were legal sized. Since 1979, no trout have been planted in Hawkins Pond. Finally locally popular waters such as Werner and Schweitzer Creeks which were heavily stocked before the Holistic Era are no longer planted with trout. And so it goes with many heavily stocked waters before the Holistic Era.

A recent Department of Natural Resources study holds out little hope for the dry fly purist going forward. The study evaluated the “impacts of stocked fish on sport catches and feral brook trout
populations” in four Upper Peninsula rivers.40 The rivers were the East Branch of the Escanaba, the West Branch of the Escanaba, the Middle Branch of the Ontonagon River, and a control water, the Iron River. This four rivers study took five years to complete. For the first two years, researchers measured baseline populations of resident trout in all four rivers. During this time, no hatchery raised trout were released into any of the rivers studied. Following the two year baseline studies, hatchery raised yearling brook trout were planted every year for three years soon after Opening Day of trout season. They were either marked with a clipped pectoral or adipose fin, or they were tagged. Over the three years of stocking approximately 22,500 brook trout were released into East Branch of the Escanaba; 9,000 released into the West Branch of the Escanaba; and 21,000 released into the Middle Branch of the Ontonagon. Creel surveys, voluntary tag returns, and electrofishing sweeps were conducted to determine hatchery raised and feral trout populations at regular intervals during the study.

The dry fly hero can only read the results of this four rivers study as ominous. Over the full term of the study, most anglers caught no fish. Fully 83.30% of anglers fishing the East Branch of the Escanaba River, 69.29 % of those fishing the West Branch of the Escanaba River, and 62.46 % of those fishing the Middle Branch of the Ontonagon River reported catching no trout. Only a small percentage of anglers caught a few trout, namely 14.56 %, 21.78%, and 22.03% on the East Branch and West Branch of the Escanaba and the Middle Branch of the Ontonagon respectively. And of those trout caught domesticated trout caught outnumbered wild fish by a three to one ratio. As to the percentage of trout return to creel, the constant concern of Michigan's budget minded program managers, harvested trout weighed 9% per pound on average of hatchery trout planted. The cost for each harvested trout broken down in 1992 dollars was as follows: $38.00 for each East Branch of the Escanaba brook trout, $19.00 for each West Branch of the Escanaba brook trout, and $9.00 for each Middle Branch of the Ontonagon brook trout. In modern dollars the costs per each fish figure as $62.00, $34.20, and $16.20 respectively.41

These numbers can not be justified. The Department of Natural Resources ceased planting
brook trout in the East and West Branches of the Escanaba shortly after the study was completed. Further the Department has grown more reluctant to plant large numbers of domesticated trout with each passing year. For example between 1979 and 1996 more than 125,000 trout were planted in the Middle Branch of the Escanaba. Since 1996 no trout have been planted in the Middle Branch of the Escanaba. Fewer hatchery raised trout in the Upper Peninsula's streams means fewer opportunities for dry fly purists to prove their skills.\textsuperscript{42} To find domesticated trout in the Escanaba, the dry fly hero must travel below Gwinn to fish. More recently after years of stocking thousands of brook trout, the state stopped stocking the Fox River, the stream Hemingway immortalized in his idyll, “the Big Two-Hearted River.” Between 2000 and 2003 for example, the state planted 35,000 yearling trout and 310 trout over fourteen inches. Similarly between 2000 and 2014 the state planted 86,085 brown trout in the Sturgeon River. It ceased planting trout after 2014.

What made the trout caught in the East and West Branches of the Escanaba so expensive was the disappearance of so many hatchery raised trout never caught by an angler. The researchers of the four rivers study wrestled with explaining this result. Winter and the stresses of surviving in the wild were offered as partial explanations. The study touched on additional possible explanations:

“When hatchery-raised brook trout are stocked in streams, stresses associated with the hatchery (for example, overcrowding, disease) are exchanged for stresses associated with the wild environment (for example, competition for limited food, increased dangers from predators). Stocks held in hatcheries usually have been selected for characteristics such as good survival, rapid growth, and ease of rearing in a hatchery. Many of the genes that make fish better able to survive in the wild may be lost when fish are selected for hatchery production characteristics.”\textsuperscript{43}

It is just such missing “characteristics” or traits which make some strains of trout better bets for hatchery production and so, as is suggested here, a more accommodating quarry for the dry fly hero.

Researchers have identified the wild traits missing in domesticated trout. A 1958 study followed three different populations of brook trout, a domesticated group, a wild group, and a first generation group taken from wild stock. The three groups were raised from eggs and subjected to the same hatchery conditions for a year. Then they were put through tests to measure their physical well-
being and to record their responses to external stimuli. The results showed the domesticated fish grew considerably faster than the wild and had a higher fat content. It was also found that the wild trout could stand higher water temperatures and higher concentrations of metabolites than the domesticated.\textsuperscript{44}

The stimuli tests revealed that hatchery bred trout are peculiarly suited to dry fly fishing. First, a marked difference attended the positions wild and domesticated trout took in the water column. Undisturbed, more wild trout took positions near the bottom of the water column while domesticated trout preferred to hold near the surface. Disturbed, the groups reacted even more differently. When a surface disturbance was created, domesticated trout rose into the upper layers of the water column. This reaction of domesticated trout was in marked contrast to wild trout which dove lower to settle themselves in the lowest parts of the water column. A second test determined if the groups differed in finding concealment once threatened. No domesticated trout sought concealment after a threatening surface disturbance while all the wild trout did. Though not put to a formal test the researchers observed that domesticated trout were generally less wary of human beings than wild trout. A third test measured stamina. Wild fish were found to have significantly greater stamina than domesticated fish. As an aside the study suggested that wild trout owed their greater longevity to their greater stamina.\textsuperscript{45}

This 1958 study makes plain the linkage between dry fly fishing and the wild traits missing in hatchery raised fish. The ordinary regimen in hatcheries is to deliver trout feed from above the surface of the water. The disturbance food pellets creates when falling on the surface of the water comes to act as a dinner bell for domesticated trout. And they carry this hatchery trait into the wild. Thus when a dry fly fisher casts his floating line and floating fly on the surface of a stream, the disturbance caused by the cast stimulates the domesticated trout to rise upward in the water column to feed. It is possible that a clumsy cast or the slapping down of the fly will draw even greater interest from domesticated trout.

Other researchers have concluded that the feeding response of domesticated trout to a surface
splash disturbance is a conditioned response with dire consequences. It is “an adaptive response in the hatchery situation, but a lethal response after release into the real world of fishermen and predators.”

Domesticated trout have overcome the challenges of the hatchery only to be thrown into the wild with its world of challenges they are not equipped to handle. As a result, large numbers of domesticated trout will be “caught the first few days of release.”

Halford addressed this “pernicious” tendency of domesticated trout. To counter it he advised against purchasing yearling trout, feeding them for two or three years, and then “turning them into the river at, or immediately before the commencement of the spring fishing.”

To Halford's mind such trout provided little sport, “When first thrown on their own resources they will take any fly offered to them...and a large proportion soon succumb to the wiles of the dry-fly fisherman.”

While denigrating the domesticated trout, Halford saw that chalk stream fishing clubs could not survive without replenishing their club waters with them. His suggested solution was vague. He advised fish keepers and club managers to stock only “fit” trout.

The results of this 1958 study identifying the wild traits missing in domesticated trout have been confirmed elsewhere. In a follow-up study, two groups of domesticated and two of wild brook trout were released into Bear Pond, a remote 4.6 acre New York mountain pond. Recovery of fish was done by fly fishing and trap netting. As reported fly fishing was limited to evening fishing during the summer when mayflies were emerging. From the description of the angling, it appears dry fly fishing was employed. Angling recovered three times as many domesticated trout as wild trout. The researchers concluded that domesticated strains were more vulnerable to dry fly angling. They observed that, “...wild strains of trout tended to remain near the bottom, and domesticated trout remain near the surface”, and surmised this trait was “due to hatchery selection, in that fish staying near the surface in a raceway or trough would have first choice of the food, thus getting more . . . .”

In the Bear Pond test, the researchers concluded that domesticated strains were “more likely to feed on surface insects and thus be more vulnerable to fly fishing.”
CONCLUSION

Dry fly fishing relies on domesticated trout to flourish. The more hatchery trout in a water, the greater likelihood the dry fly purist will succeed. The numbers of hatchery trout in the waters of the Upper Peninsula are decreasing. With fewer domesticated trout swimming Upper Peninsula waters, dry fly fishing becomes more chancy and the commitment to dry fly purism more foolish. With the numbers of domesticated trout declining, the number of disappointing days astream will mount. The day is fast approaching when very few if any domesticated trout will be stocked in Upper Peninsula rivers. When that day arrives, the dry fly hero will become a museum piece, a relic of Victorian England.

In the meantime dry fly purists must recognize their sport depends on the generosity of the State of Michigan. For their best chance of success, dry fly purists need check Michigan's Department of Natural Resources Fish Stocking Database for notifications of trout stocking operations. Fishing within the month following stocking provides purists with their best opportunity. Upper Peninsula streams which still receive large numbers of domesticated trout are the Escanaba below Gwinn, the Middle Branch of the Ontonagon River, the Yellow Dog River, the Tahquamenon River, and the West Branch of the Whitefish River. State fish managers schedule stocking operations for these rivers in May, thus offering the dry fly hero the opportunity in June to impersonate Halford on the Test thereby reliving the myth.


Still water fishing was an afterthought explored by his followers without the same detail and scientific elaboration.

3. The club was short lived. For fourteen years it controlled three miles of the Test River. Simon Ward, “The Houghton Fly Fishing Club 1878 to 1892, <www.catchtheimage.com/Articles/gsmsremembered_part4.html> (2018). The club describes itself as a “gentlemen's club” open to enthusiasts of fly fishing. It was and is very selective in offering membership. Its current royal patron is Prince Charles. Most prominent among the members were R. B. Marston, the editor of the *Fishing Gazette*. Francis Francis who joined the *Field* and became its fishing editor. The first president of the Flyfishers was Basil Field who also served as editor-in-chief of the *Field*.


15. Examples of the Anglers' Club Captains of Industry are Silas Howland, C. Frances Beatty, and Russell M'Gregor. Howland was a partner of the Guggenheim brothers. Guggenheim's Alaskan copper mines became Kennecott Copper Corporation. Their Perth Amboy refinery, their mines in Utah and Alaska are superfund sites. Kennecott's Alaskan copper mines fouled Alaska's Copper River and it has yet to fully recover. Beatty as a director of Socony Vacuum Oil Company, Inc., later known as Mobil Oil, was responsible for polluting the Hudson River with PCBs ending commercial fishing for generations. It is responsible for many superfund sites as well as polluting Brooklyn's ground water and Brooklyn Creek. Stone was a board member of Avon Products which blinded and disabled small mammals while experimenting with its products. It is responsible for numerous superfund sites.


19. John Peterson, interview by author, 26 June 2018. Peterson is a third generation commercial fly tier following his
father and grandfather in the business. He served as an officer and board member of the Marquette, Michigan's Trout Unlimited chapter; author's personal recollections.


42. Michigan Department of Natural Resources, *Fish Stocking Database 1957-1977*.


44. Vincent, “Domestication:” 16.


51. Flick and Webster, “Sampling Wild and Domestic Stocks,” 141.
53. Flick and Webster, “Sampling Wild and Domestic Stocks,” 144.