

New Hampshire Farm, Fish, & Food Economy

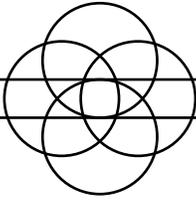
**NH Farmers lose \$8 million each year raising
\$234 million of crops & livestock.
Fishers harvest \$35 million of seafood, but
face global market challenges.**

**NH residents spend \$4 billion each
year purchasing food sourced
outside the state.**

**The NH food sector hires at least
81,311 employees who earn a
total payroll of \$1.8 billion.**

**If each NH resident purchased \$5
of food each week from a NH
farm, these farms would earn
\$349 million of income —
1.5 times current sales!**

New Hampshire Would Gain by Strengthening its Community-Based Food System



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Tools for Community Self-determination

New Hampshire Farm, Fish, & Food Economy

by Ken Meter, Crossroads Resource Center (Minneapolis)¹
for
**National Family Farm Coalition
Food Solutions Forum**

November 5, 2019

*Data compiled from public data sets covering the State of New Hampshire,
New England, & the United States*

New Hampshire (Bureau of Economic Analysis, 2017)

1,342,795 New Hampshire residents receive \$80 billion of income annually. Personal income increased more than four-fold from 1969 to 2017, after dollars were adjusted for inflation. The largest source of personal income is capital income from interest, dividends, and rents (\$14 billion). Transfer payments (from government programs such as pensions), ranked second, accounting for \$12 billion of personal income [see below]. Health care and social assistance workers ranked third at \$6.6 billion of personal income, just above government jobs, which accounted for \$6.4 billion. Manufacturing jobs produce \$6.2 billion of personal income. Note that income from public sources makes up 23% of all personal income for state residents.

Income earned from transfer payments includes \$5.0 billion of retirement and disability insurance benefits; \$5.4 billion of medical benefits; \$639 million of income maintenance benefits; \$75 million of unemployment insurance; and \$431 million of veterans' benefits.

Government income includes \$862 million of income earned by federal workers and \$5.4 billion earned by state and local government workers, including educational institutions. Military personnel earn \$163 million.

Although the state's population increased 85% since 1969, there has been limited public planning to assure a secure and stable food supply for New Hampshire residents.

¹ Megan Phillips Goldenberg of New Growth Associates in Ann Arbor, Michigan, compiled fisheries data.

Issues affecting low-income residents of New Hampshire:

Nearly 240,000 residents (18.6%) earn less than 185% of federal poverty guidelines. At this level of income, children qualify for free or reduced-price lunch at school. 98,000 (7.6%) New Hampshire residents receive \$124 million of SNAP benefits (formerly known as food stamps) and additional WIC coupons. This is an average of \$1,265 per person, per year. No state residents received SNAP benefits before 1973. Half of the families receiving SNAP benefits have at least one person working. *Data from Federal Census of 2013-2017, Bureau of Labor Statistics, & Bureau of Economic Analysis.*

3.9% percent of the state's households (more than 50,000 residents) earn less than \$10,000 per year. *Source: Federal Census of 2013-2017.*

10% of adults aged 18-64 in the State of New Hampshire had no health care insurance in 2018. *Source: Centers for Disease Control and Prevention.*

Food-related health conditions:

72% of New Hampshire residents reported in 2009 that they eat less than five servings of fruit and vegetables per day. More recent counts (2017) show that 30% eat less than one fruit, and 14% eat less than one serving of vegetables daily. These are key indicators of health, since proper fruit and vegetable consumption has been connected to better health outcomes. Many health providers recommend consumption of at least five servings of fruit and vegetables each day, while others suggest even higher rates. *Source: Centers for Disease Control and Prevention.*

21% of New Hampshire adults reported in 2017 that they get sufficient exercise each week to meet recommended guidelines. *Source: Centers for Disease Control and Prevention.*

6.5% of New Hampshire residents have been diagnosed with diabetes as of 2018. *Source: Centers for Disease Control.* Medical costs for treating diabetes in the state are an estimated \$1.26 billion annually. *Source: American Diabetes Association, 2017.*

65% of the State's residents were overweight (35%) or obese (30%) in 2018. *Source: Centers for Disease Control and Prevention.*

Farms in New Hampshire (Census of Agriculture, 2017)

Census of Agriculture data for 2017 were released on May 6, 2019

The Census of Agriculture defines a "farm" as "an operation that produces, or would normally produce and sell, \$1,000 or more of agricultural products per year."

Land:

- New Hampshire has 4,123 farms. This is a 4% decrease in farms since 2012.
- The State holds 425,393 acres of farmland.
- Average farm size is 103 acres.
- 2,356 farms are less than 50 acres.
- 31 (1%) farms are 1,000 acres or more.
- 59% of farmland is woodland, while 25% is cropland, and 7% is pasture.

- Average value of land and buildings per farm is \$539,732.

Sales (Note that there may be discrepancies between Census of Agriculture data and Bureau of Economic Analysis data, below):

- \$188 million of crops and livestock sold (2017).
- This is a 2% decrease in sales from 2012. Note that crop prices were unusually high in 2012.
- 57% of farm product sales were crops (\$108 million).
- 43% of farm product sales were livestock and products (\$80 million).
- 2,908 (71%) of the state’s farms sold less than \$10,000 of products in 2012. Their aggregate sales of \$6.8 million amounted to 3.6% of the state’s farm product sales.
- 266 farms (6%) sold more than \$100,000 of products, an aggregate total of \$152 million, 81% of the state’s farm product sales.

Other Forms of Income:

- 308 (7%) farms received \$3.5 million of federal subsidies in 2017, 1% more than in 2012. *[Note that Census of Agriculture data differ from Bureau of Economic Analysis data; see below.]*
- 1,192 New Hampshire farms earned \$29.7 million of farm-related income in 2017. This farm-related income includes sales of forest products (\$4.6 million), agri-tourism income (\$4.0 million), custom work for neighbors (\$1.7 million), cash rents (\$585,000), patronage dividends, insurance payments, etc. Most (\$17.4 million) of the sources of this income were not specified by the Census of Agriculture for New Hampshire in 2017.
- 68% (2,821) of the state’s farms reported net losses in 2017.

Production Expenses:

- Aggregate farm production expenses were \$211 million, 9% less than in 2012.
- Top production expenses are listed below. Note that depreciation is not included in the total mentioned above.

Table 1: Production Expenses for New Hampshire Farmers, 2017

	\$ millions
Hired farm labor	49.3
Feed purchased	33.2
Property taxes paid	25.6
Supplies, repairs, & maintenance	20.3
Other production expenses	18.2
Depreciation expenses	17.1
Seeds, plants, vines, & trees	11.4
Gasoline, fuels, & oils	10.2
Utilities	8.0
Interest expense	7.2

Source: USANAASS Census of Agriculture, 2017.

Grains, Dry Edible Beans, Oil Crops, & Others:

- 65 farms sold \$4 million of corn from 848 acres in 2017.
- 2 farms raised wheat.
- 2 farms raised oats.
- 2 farms raised sorghum.
- 2 farms raised soybeans.

Cattle & Dairy:

- 903 farms held an inventory of 35,323 cattle and calves.
- 12,216 cattle worth \$9.7 million were sold from 595 farms in 2017.
- 140 farms reported selling milk or dairy products.
- Milk and dairy sales totaled \$52 million.
- 216 dairy farms held an inventory of 13,118 cows (37% of total state cattle inventory).
- 1,335 farms sold \$16 million of forage crops (hay, etc.) from 64,393 acres.
- 95 farms produced 227,486 tons of corn silage on 11,214 acres.

Other Livestock & Animal Products:

- 1,145 New Hampshire farms held an inventory of 246,099 laying hens in 2017. *Sales of poultry and eggs were withheld by USDA in an effort to protect the confidentiality of individual farms.*
- An inventory 26,139 broiler chickens was held by 156 farms.
- New Hampshire farms also held an inventory of 23,599 pullets.
- 502 New Hampshire farms held an inventory of 8,213 sheep and lambs in 2017.
- 7,014 horses and ponies were held by New Hampshire farms.
- 164 farms sold a total of \$2.8 million of horses.
- An inventory of 4,228 goats was held by farms in the state.
- 3,646 turkeys lived on New Hampshire farms.
- 281 New Hampshire farms held an inventory of 3,366 hogs and pigs in 2017. *The value of sales of hogs and pigs was withheld by USDA in an effort to protect the confidentiality of individual farms.*

Nursery, Landscape, & Ornamental Crops:

- 463 farms sold \$53 million of ornamental and nursery crops.
- 181 New Hampshire farms sold \$3.3 million of Christmas trees.

Vegetables & Melons (some farmers state that Census of Agriculture data does not fully represent vegetable production):

- 590 New Hampshire farms sold \$18 million of vegetables, potatoes, sweet potatoes, and melons on 3,695 acres of land.
- 154 farms raised potatoes on 107 acres.

- 20 farms raised sweet potatoes on 3 acres.

Fruits (some farmers state that Census of Agriculture data does not fully represent fruit production):

- The state held 306 fruit farms with 1,703 acres of orchard in 2017.
- This included 1,458 acres of apples.
- 440 farms in the state sold \$13 million of fruit, nuts, and berries in 2017.
- This included \$9.3 million of fruits and nuts, and \$3.6 million of berries.

Direct & Organic Sales:

- 1,193 (29%) farms sold \$32 million of food directly to household consumers.
- Direct sales to households account for 17% of the state’s farm product sales (This includes value-added products). *These 2017 data cannot be compared directly to 2012 data because the protocol for reporting direct sales data changed.*
- 319 (8%) farms sold \$8.3 million of food products for human consumption directly to wholesale buyers. *These 2017 data cannot be compared directly to 2012 data because the protocol for reporting direct sales data changed.*
- Direct wholesale sales account for 4% of the state’s farm product sales (This includes value-added products). *These 2017 data cannot be compared directly to 2012 data because the protocol for reporting direct sales data changed.*
- 135 farms reported \$4 million of income from agri-tourism (*this is included as part of the Farm-Related Income total reported above*).
- 144 New Hampshire farms sold \$10 million of organic food products.
- 522 farms sold \$13 million of added-value products in 2017.
- 122 farms had an on-farm packing facility, 40% less than the 202 farms reported in 2012.

Conservation Practices:

- 676 farms use rotational management or intensive grazing, 19% fewer than the 842 farms reported in 2012.

Table 2: Products Sold by New Hampshire Farms, 2017

See also continuation of data and chart on next page.

	\$ millions
Nursery & Greenhouse	53.3
Milk	52.5
Vegetables	18.0
Forage	16.1
Fruits & Nuts	12.9
Cattle & Calves	9.7
Maple Syrup	6.0
Corn	4.1

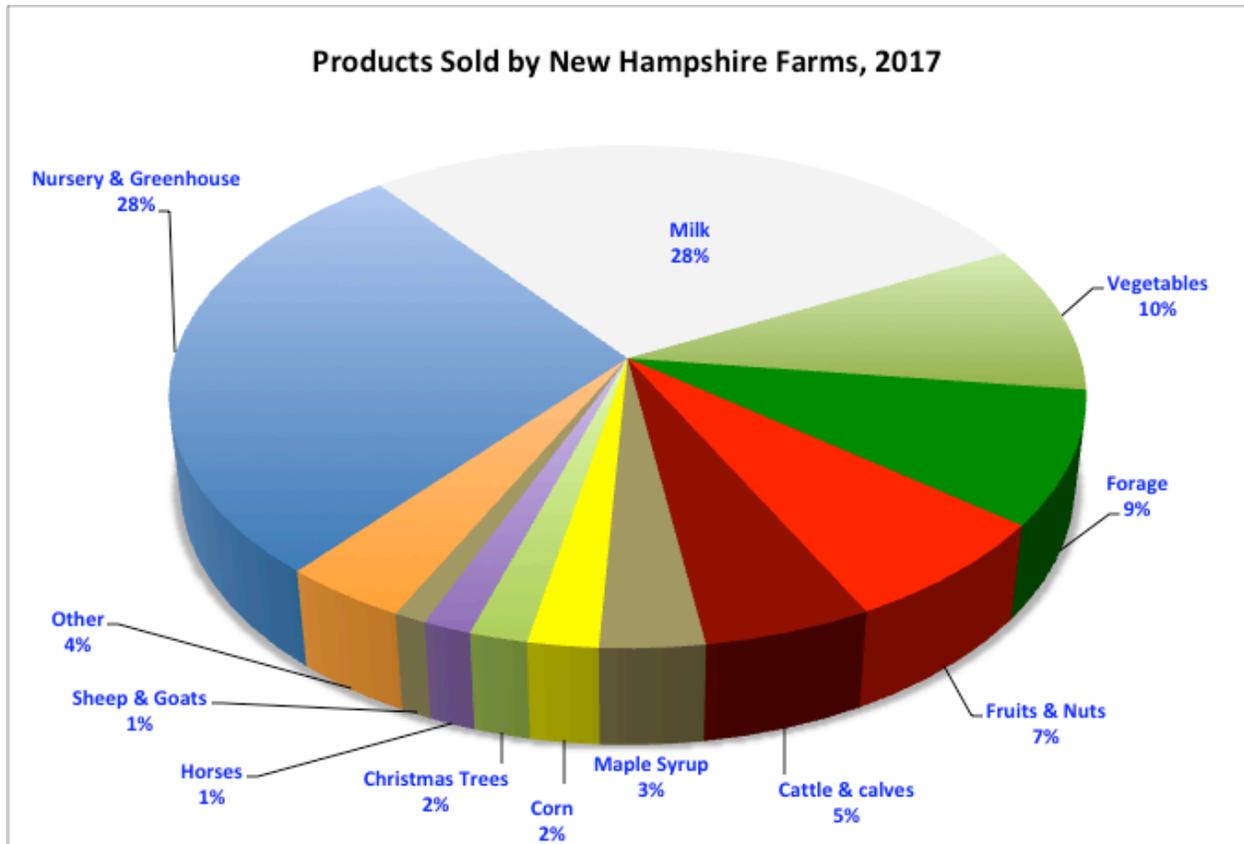
Christmas Trees	3.3
Horses	2.8
Sheep & Goats	1.9
Other	7.2

Source: USDA Economic Research Service. Note that sales totals for Poultry & Eggs, and Hogs & Pigs, were withheld by USDA in an effort to protect the confidentiality of individual operations.

Note also that at \$32 million, direct sales from farmers to household consumers amount far more than the value of vegetables, the third largest crop.

Chart 1: Products Sold by New Hampshire Farms, 2017

See table on previous page



Source: USDA Economic Research Service. Note that sales totals for Poultry & Eggs, and Hogs & Pigs, were withheld by USDA in an effort to protect the confidentiality of individual operations. These are included in the “Other” category.

Balance of Cash Receipts and Production Costs (Bureau of Economic Analysis):

4,123 New Hampshire farmers sell \$234 million of food products per year (1989-2017 average), spending \$242 million to raise them, for an average loss of \$8 million each year. This is a loss of \$1,886 per farm. Nationally, farm families make up such losses by holding other jobs off the farm, or from inherited wealth. *Note that these sales figures compiled by the BEA may differ from cash receipts recorded by the USDA Census of Agriculture (above).*

Overall, farm producers spent \$226 million more than they earned by selling crops and livestock over the years 1989 to 2017. Farm production costs exceeded cash receipts for 20 years of that 29-year period. Moreover, 68% of the State's farms reported a net loss in 2017 (Census of Agriculture), and New Hampshire farmers and ranchers earned \$140 million less by selling farm products in 2017 than they earned in 1969 (in 2017 dollars).

Farmers and ranchers earn another \$25 million per year of farm-related income — this includes custom work, rental income, as well as other sources that are not specified (29-year average for 1989-2017; *for details see above*). Federal farm support payments are a far more important source of net income than commodity production, averaging \$7 million per year for the state for the same years. While these subsidies appear to cover the production losses suffered by New Hampshire farmers, only a small percentage of farms actually receive these subsidies. These are largely investments in conservation programs.

The state's consumers:

See also information covering low-income food consumption and food-related health conditions, page 1-2 above.

New Hampshire consumers spend \$4.4 billion buying food each year, including \$2.6 billion for home use. Most of this food is produced outside the state, so state consumers spend about \$4 billion per year buying food sourced far away. Only \$32 million of food products (14% of farm cash receipts and 0.7% of the state's consumer market) are sold by farmers directly to consumers.

Farm and food economy summary:

Farmers lose \$8 million each year producing food commodities, gain \$7 million from federal subsidies, and spend (conservatively estimated) \$90 million buying inputs sourced outside of the state. Even when farmers make money, these input purchases result in substantial losses to the state as a whole. Overall, farm production creates an outflow of \$90 million from the state.

Meanwhile, consumers spend \$4 billion buying food from outside. Thus, total loss to the state is \$4.1 billion *each year*. This loss amounts to more than *17 times* the value of all food commodities raised in the state.

Table 3: New Hampshire: Markets for Food Eaten at Home (2017):

New Hampshire residents purchase \$4.4 billion of food each year, including \$2.6 billion to eat at home. Home purchases break down in the following way:

	<i>millions</i>
Meats, Poultry, Fish, & Eggs	\$ 563
Fruits & Vegetables	522
Cereals & Bakery Products	345
Dairy Products	272
“Other,” incl. Sweets, Fats, & Oils	879

Source: Bureau of Labor Statistics Consumer Expenditure Survey for 2017. Calculation of state total by Ken Meter using population estimates from the Federal Census.

A Vermont study (Conner, *et al.*, 2012) estimated that about 5-6% of the food consumed in that state was produced by Vermont farmers. If similar dynamics are present in the New Hampshire economy, we could conservatively assume that 90% of the food residents purchase is sourced outside of the state (the actual amount is likely to be far higher, but we lack complete data)². That would mean that New Hampshire residents ship \$4 billion out of the state each year through these food purchases for home use.

Source: Conner, David; Becot, Florence; Hofer, Douglas; Kahler, Ellen; Sawyer, Scott; & Berlin, Linda (2012). “Measuring current consumption of locally grown foods in Vermont: Methods for baselines and targets.” UVM Extension Faculty Publications. Paper 1.
<http://scholarworks.uvm.edu/extfac/1>

If each New Hampshire resident purchased an average of \$5 of food each week directly from some farm in the state, this would generate \$349 million of farm income annually. This is 1.5 times the amount of money New Hampshire farmers currently earn by selling crops and livestock.

² This is not to suggest that 10% of the food consumed by New Hampshire residents is sourced inside the state. The actual value would be difficult to measure. It could easily be less than the Vermont rates shown above, of 5-6%.

Table 4: Employment in Food-Related Sectors in New Hampshire (2016)

Industry Code	Industry Sector	Number of firms	Employees	Payroll \$ millions
	Total for all sectors	37,868	594,243	29,193
11	Agriculture, Forestry, Fishing & Hunting	141	633	30
333111	Farm Machinery & Equipment Manufacturing	2	(D)	(D)
311	Food Manufacturing	114	2,969	148
312	Beverage & Tobacco Product Manufacturing	41	902	51
3253	Pesticide, Fertilizer, & Other Ag Chemical Mfg.	4	(D)	(D)
42382	Farm & Garden Equipment Wholesalers	16	218	12
4244	Grocery & Related Product Wholesalers	129	2,939	160
445	Food & Beverage Stores	661	24,816	449
49312	Refrigerated Warehousing & Storage	3	44	2
722	Food Services & Drinking Places	3,113	48,790	916
	Totals	4,224	81,311	1,769
	Percent of State	11%	14%	6%

Source: Federal Census, County Business Patterns. Data for 2016. The symbol (D) means that data have been suppressed in an effort to protect the confidentiality of individual firms. Note that this data is not a complete view of the economic importance of the farm and food sector, since food activity occurs in several other sectors, such as transportation and warehousing, but not in ways that can be specified.

Table 5: Top Seafood Landings in New Hampshire, 2017

Species	Value in Dollars
Lobster	31,722,708
Tuna	852,848
Herring	826,956
Goosefish	421,882
Flounder	269,291
Pollock	188,523
Hake	185,915
Shark	177,800
Cod, Atlantic	149,506
Crab	81,927
Scallop	64,176
Total	34,941,532

Source: National Marine Fisheries Service. NOAA Commercial Landings Database, 2019. Data for 2017. Compiled by Megan Phillips Goldenberg, New Growth Associates.

Lobster is the primary harvest by New Hampshire fishers, accounting for 91% of the value of the state catch in 2017, up from 70% in 2009.

New Hampshire fishers harvest about 2% of the New England catch, and have since 1978.

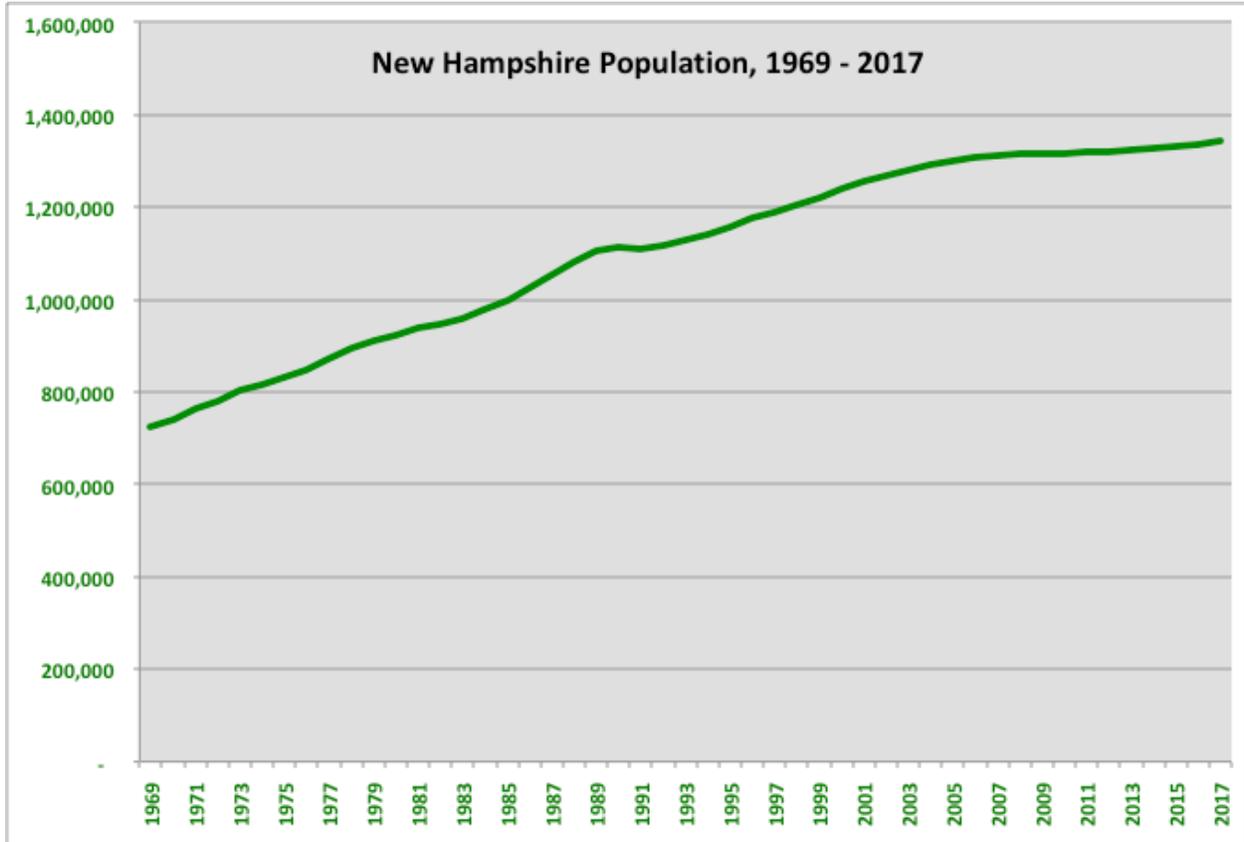
In separate research, UNH economists calculated that the economic impact of the 180 boats in the New Hampshire seafood industry in 2007 was \$106 million, or nearly \$600,000 per boat. The industry was said to create 450 jobs directly, and another 4,500 jobs indirectly, for a total of 5,000 jobs. That is an average payroll of \$21,000 per job.

UNH further identified the issues that face New Hampshire fishers: Low-cost imports have placed intense downward pressure on seafood prices even as the costs of doing business rise. In addition, regulations keep changing continuously, and the consumers perceive that the industry is not environmentally sustainable. Their analysis was that since quotas will hold harvests to current levels, the best hope for increasing profitability was to increase prices and/or reduce production costs.

Source: University of New Hampshire Cooperative Extension (2009?). "Economic Impact of the N.H. Seafood Industry: Opportunity for Sustainability."

https://extension.unh.edu/resources/files/Resource002695_Rep3983.pdf

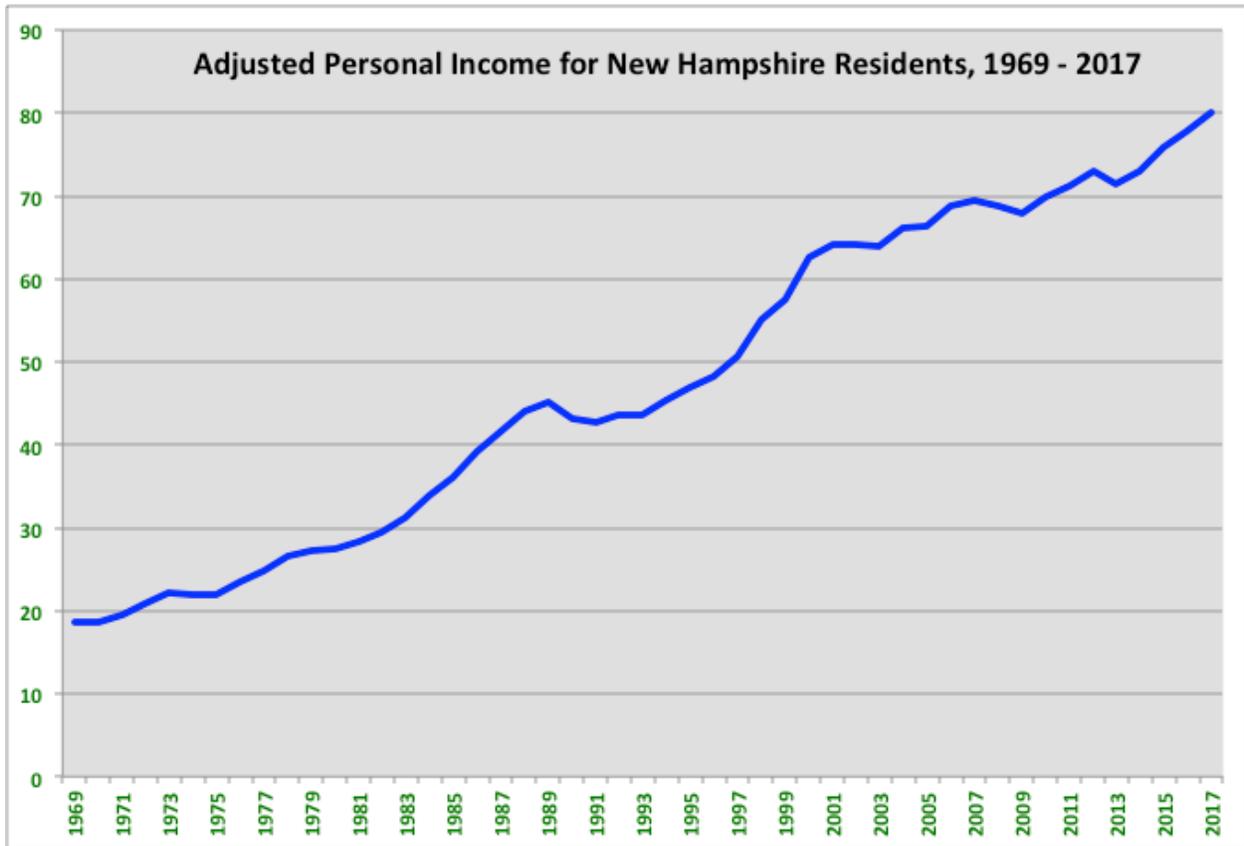
Chart 2: New Hampshire Population, 1969 - 2017



Source: Bureau of Economic Analysis

The population in New Hampshire increased 85%, from 724,000 in 1969 to 1,342,795 in 2017.

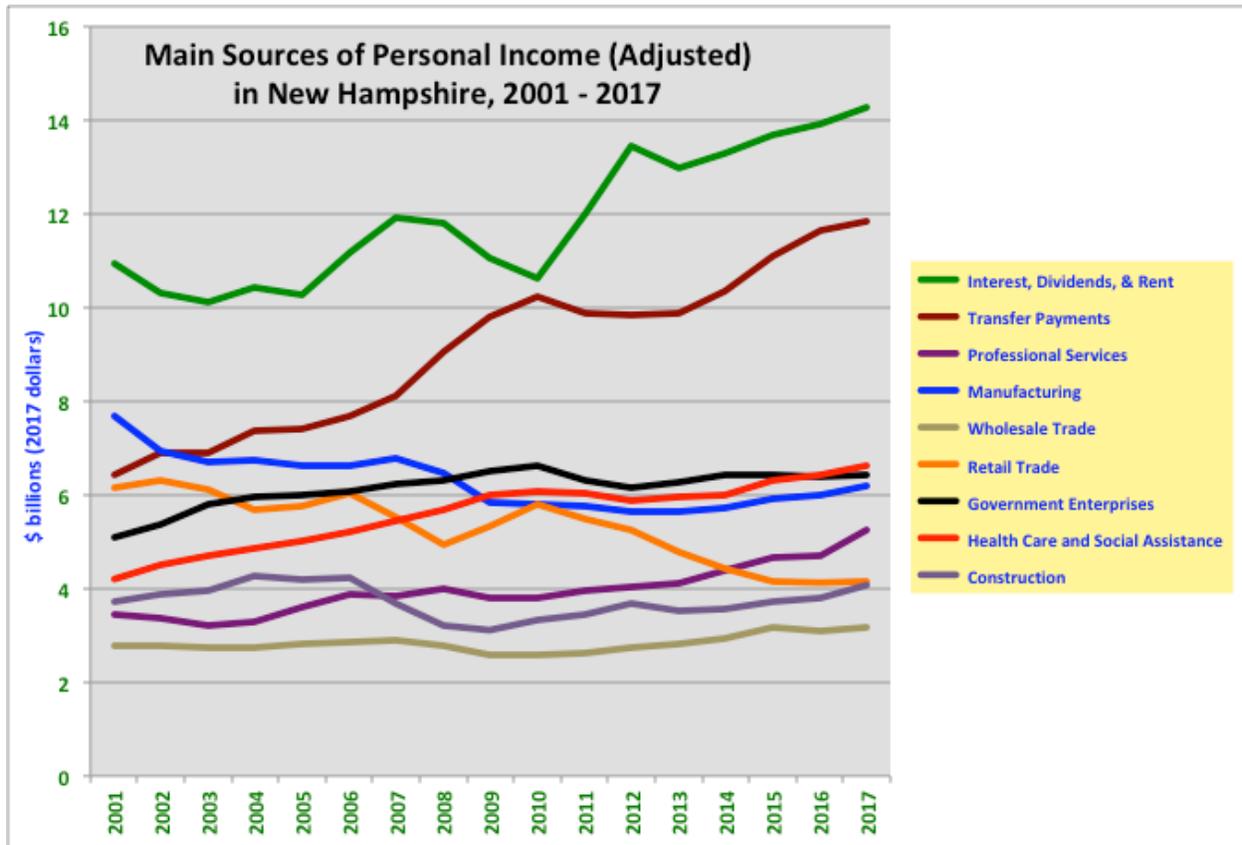
Chart 3: Adjusted Personal Income for New Hampshire Residents, 1969 - 2017



Source: Bureau of Economic Analysis. Adjusted for inflation using the Consumer Price Index published by Minneapolis Federal Reserve.

Personal income for New Hampshire residents increased 332%, from \$18.5 billion in 1969 to \$80 billion in 2017, after adjusting for inflation.

Chart 4: Sources of Adjusted Personal Income in New Hampshire, 1969 - 2017

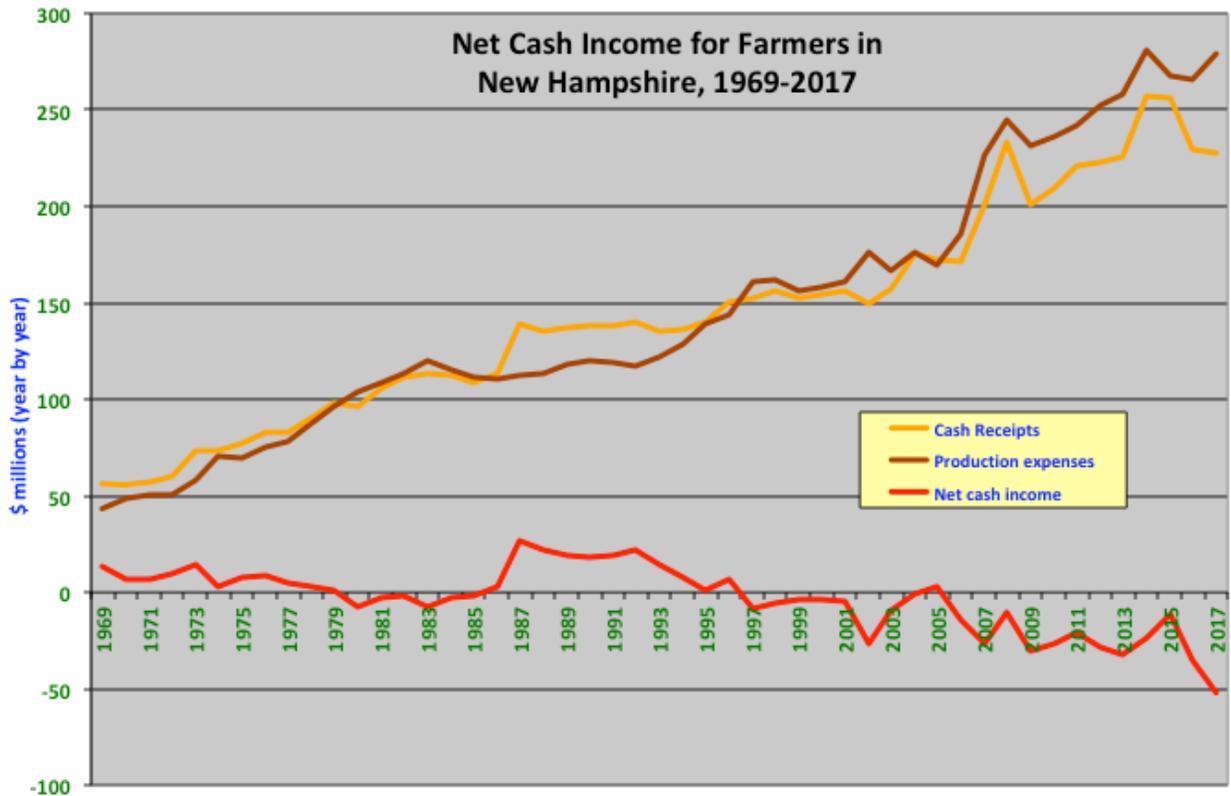


Source: Bureau of Economic Analysis. Adjusted for inflation using the Consumer Price Index published by Minneapolis Federal Reserve.

1,342,795 residents received \$80 billion of income in 2017. Personal income increased more than four-fold from 1969 to 2017, after dollars were adjusted for inflation. The largest source of personal income is capital income from interest, dividends, and rents (\$14 billion; green line). While this shows that capitalism is working for many residents, this also may be a sign of an aging population. Transfer payments (from government programs such as pensions; maroon line), ranked second, accounting for \$12 billion of personal income. Health care and social assistance workers (red line) rank third at \$6.6 billion of personal income, ranking just above government jobs (black line), which accounted for \$6.4 billion. Manufacturing jobs (blue line) produce \$6.2 billion of personal income.

Note that income from public sources makes up 23% of all personal income for state residents. Government income includes \$862 million of income earned by federal workers and \$5.4 billion earned by state and local government workers, including educational institutions. Military personnel earn \$163 million.

Chart 5: Net Cash Income for Farmers in New Hampshire, 1969 - 2017

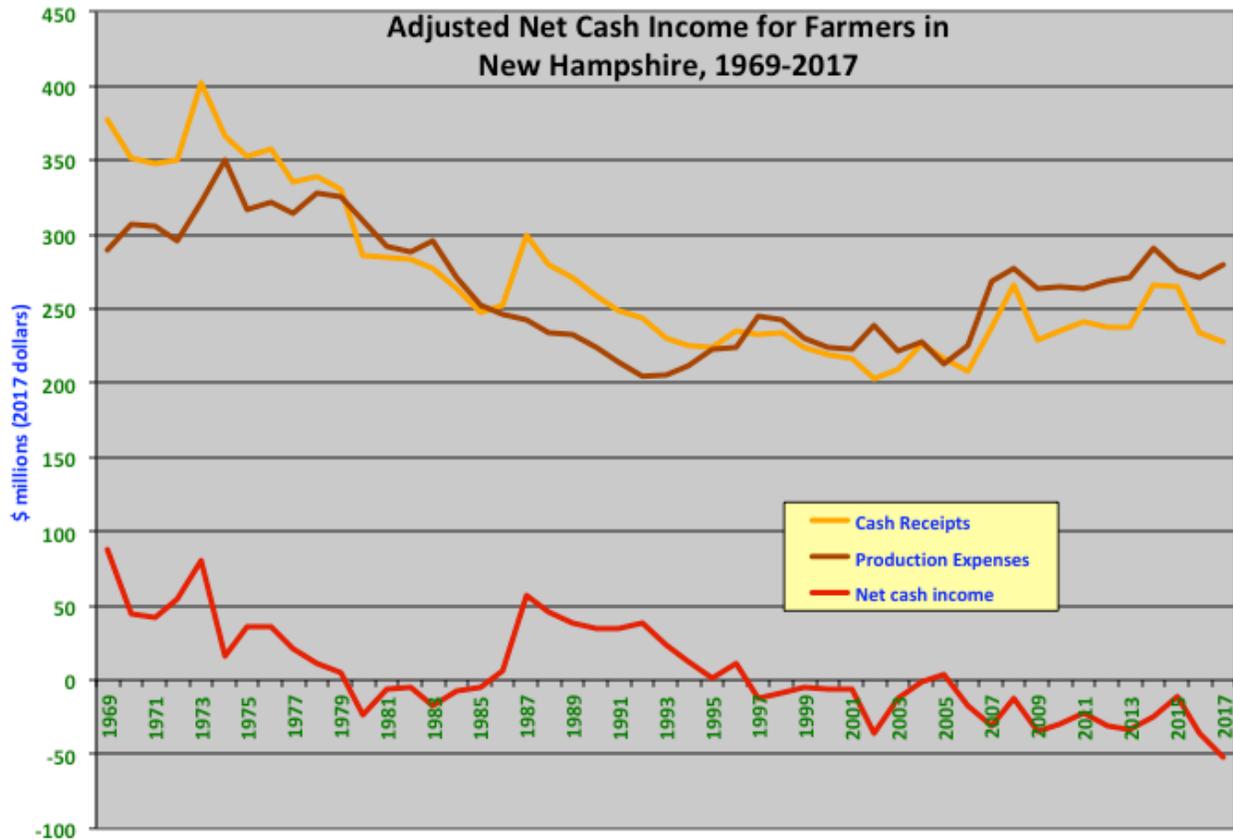


Source: Bureau of Economic Analysis.

Chart 4 shows that commodity farming in New Hampshire has been far from profitable over the past 49 years, despite the fact that sales have risen steadily. Cash receipts (orange line) increased from \$56 million in 1969 to \$228 million in 2017, but production expenses (maroon line) rose even faster, from \$43 million to \$279 million. This means the net cash income (red line) for New Hampshire farms — cash receipts less production expenses — fell steadily from a \$13 million gain in 1969 to a *loss* of \$52 million in 2017, or \$65 million less than 49 years ago.

In 20 of the past 29 years (since 1989), farmers have spent more producing crops and livestock than they earned by selling these products. In 2017, 68% of the farms in the state reported a net loss.

Chart 6: Adjusted Net Cash Income for Farmers in New Hampshire 1969 - 2017

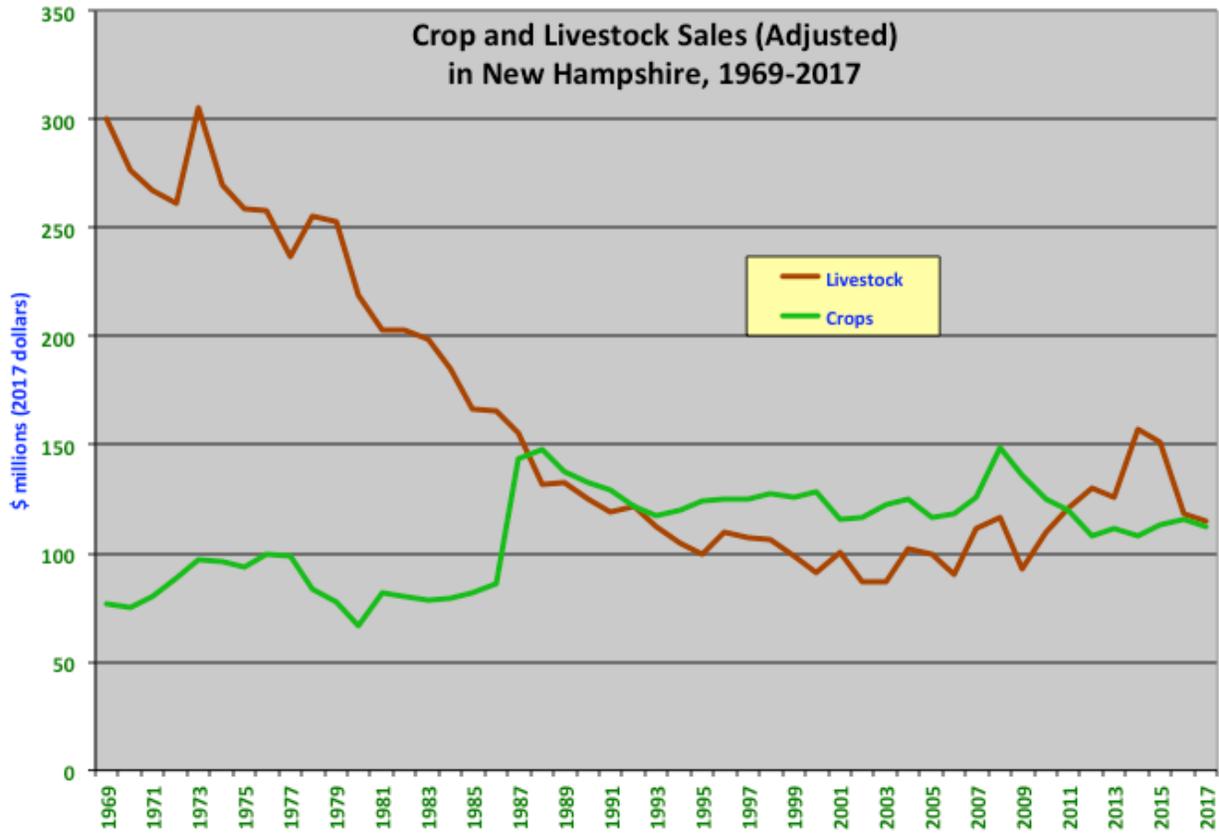


Source: Bureau of Economic Analysis. Adjusted for inflation using the Consumer Price Index published by Minneapolis Federal Reserve.

After the data in Chart 4 are adjusted for inflation, the losses endured by farmers appear even larger, because the value of the dollar was so much larger in earlier years (Currently the dollar is worth less than one-sixth of the value it held in 1969). These data, presented in Chart 5, also show that cash receipts are actually lower today than 49 years ago, despite the significant advances in productivity farmers have gained (Economic Research Service Farm Productivity data show that productivity more than doubled during this period). Moreover, cash receipts are highly variable, as global markets fluctuate and weather changes. Since the mid-1990s, cash receipts (orange line) have been essentially steady, while production expenses (maroon line) increased.

Overall, net cash income (red line) fell \$140 million over the past 49 years, in adjusted dollars.

Chart 7: Crop and Livestock Sales (Adjusted) in New Hampshire, 1969 - 2017

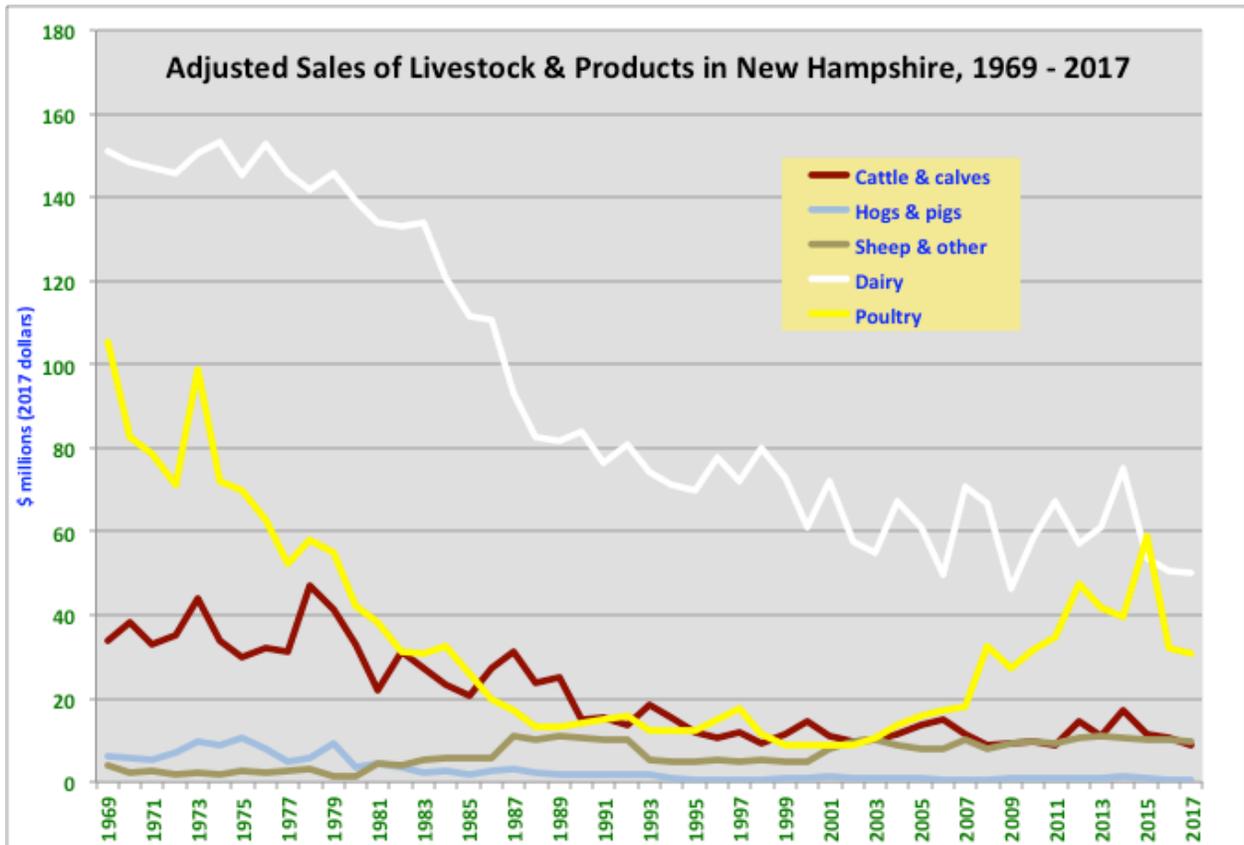


Source: Bureau of Economic Analysis. Adjusted for inflation using the Consumer Price Index published by Minneapolis Federal Reserve.

Chart 6 shows that declining livestock sales (maroon line) fueled falling cash receipts for New Hampshire farms. Since 2003, these have increased slightly, primarily because of rising cattle prices. Crop sales (green line) have increased slowly over the past 49 years and now rival livestock sales in importance.

Note that the chart above shows only sales, not profitability.

Chart 8: Adjusted Sales of Livestock & Products in New Hampshire, 1969 - 2017

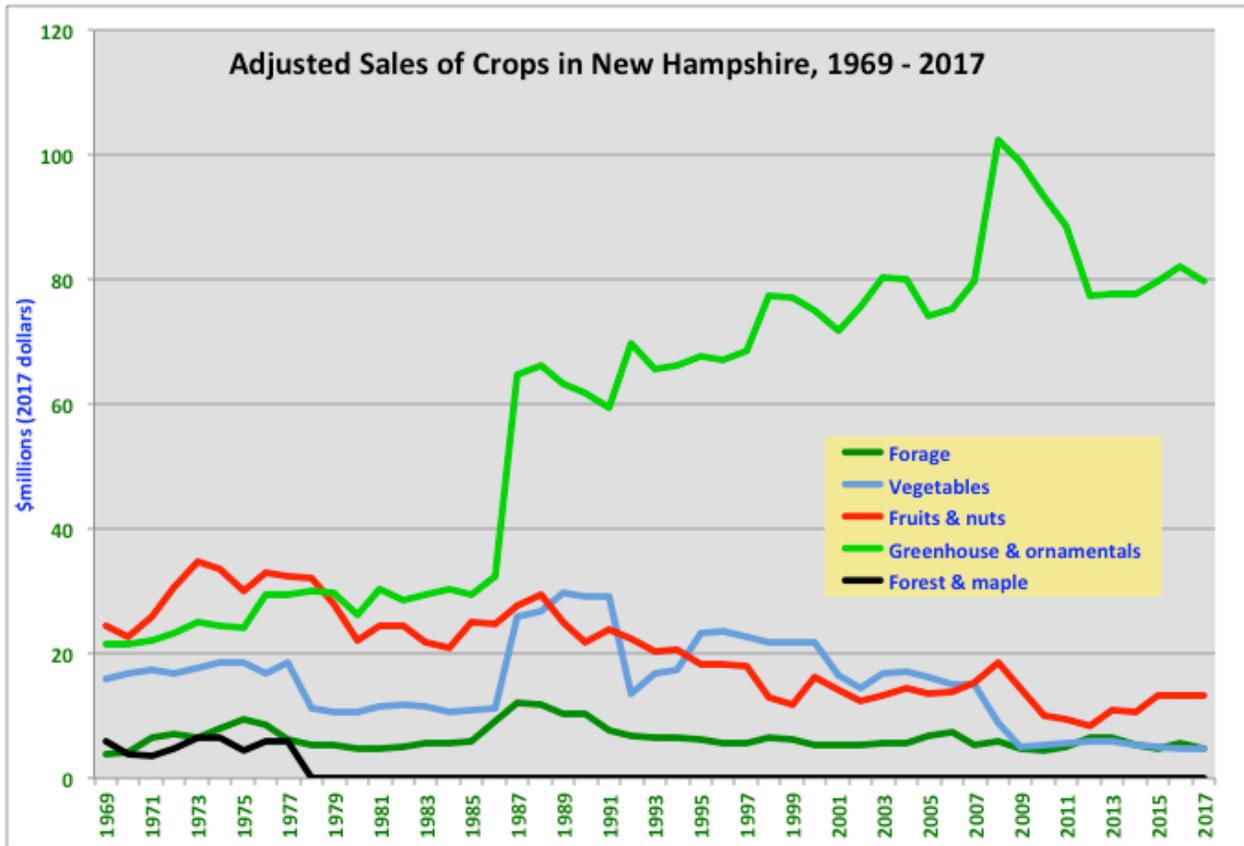


Source: Bureau of Economic Analysis. Adjusted for inflation using the Consumer Price Index published by Minneapolis Federal Reserve.

Chart 7 shows quite starkly the decline of dairy sales in New Hampshire over the past 49 years, which fell from \$151 million (in 2017 dollars) to \$50 million (white line). Poultry and egg sales (yellow line) fell from \$105 million to a low of \$9 million in 1999, and have since recovered to \$31 million. Sales of cattle and calves (maroon line) fell from \$34 million to \$10 million. Hog and pig sales (light blue line) have fallen to near zero, while sheep and goats (brown line) have increased steadily and slowly.

Note that the chart above shows only sales, not profitability.

Chart 9: Adjusted Sales of Crops in New Hampshire, 1969 - 2017

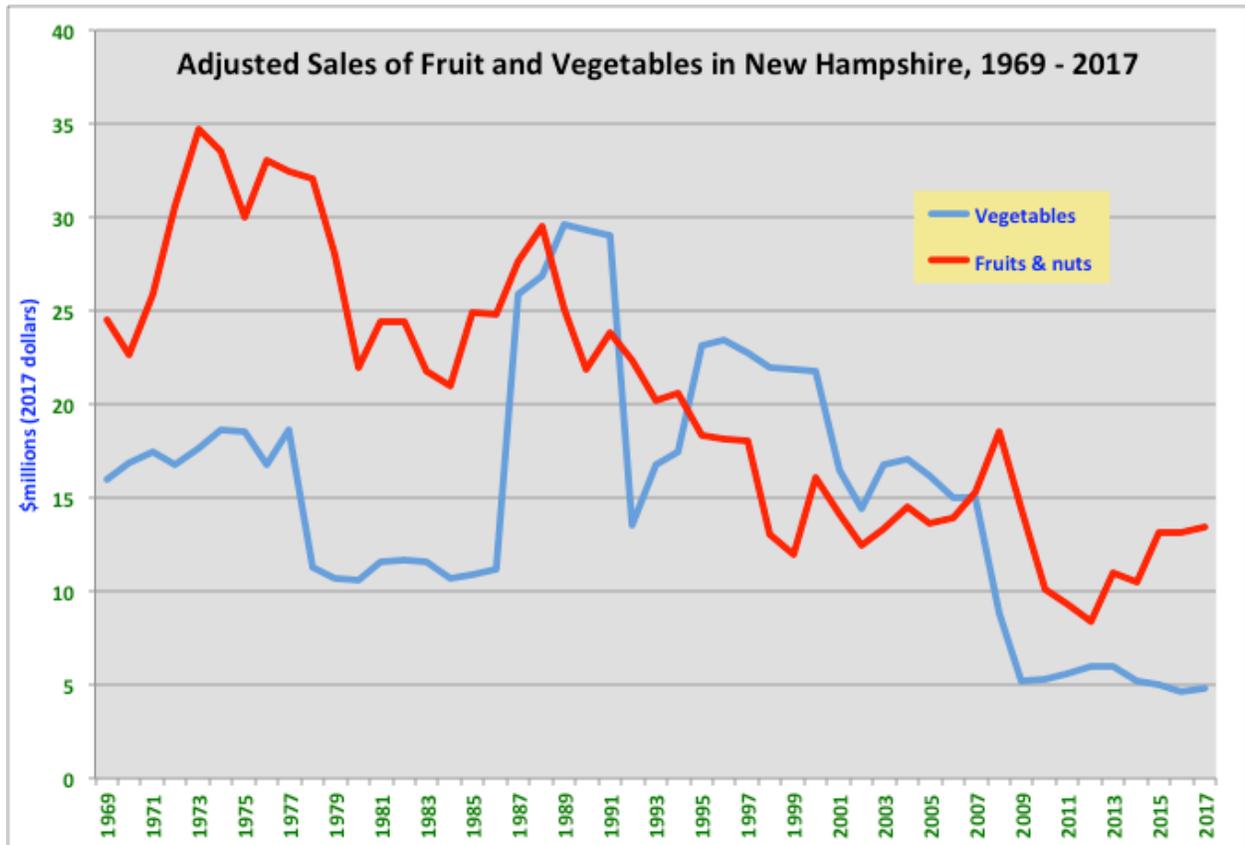


Source: Bureau of Economic Analysis. Adjusted for inflation using the Consumer Price Index published by Minneapolis Federal Reserve.

Despite the decline of dairy and cattle sales, forage sales (dark green line) have remained quite steady since 1969. Unfortunately, sales of forest products and maple syrup (black line) have not been reliably tracked by BEA since 1978, so these are shown as values of zero. Sales of both fruit (red line) and vegetables (light blue line) have declined slowly. The sole rising force in crop sales is sales of greenhouse and ornamental products (light green line). While some of this can be attributed to purchasing seedlings for gardening, the main cause of these rising sales is landscaping. At times, of course, this landscaping for housing and commercial developments in turn threatens farmland.

Note that the chart above shows only sales, not profitability.

Chart 10: Adjusted Sales of Fruit and Vegetables in New Hampshire, 1969 - 2017

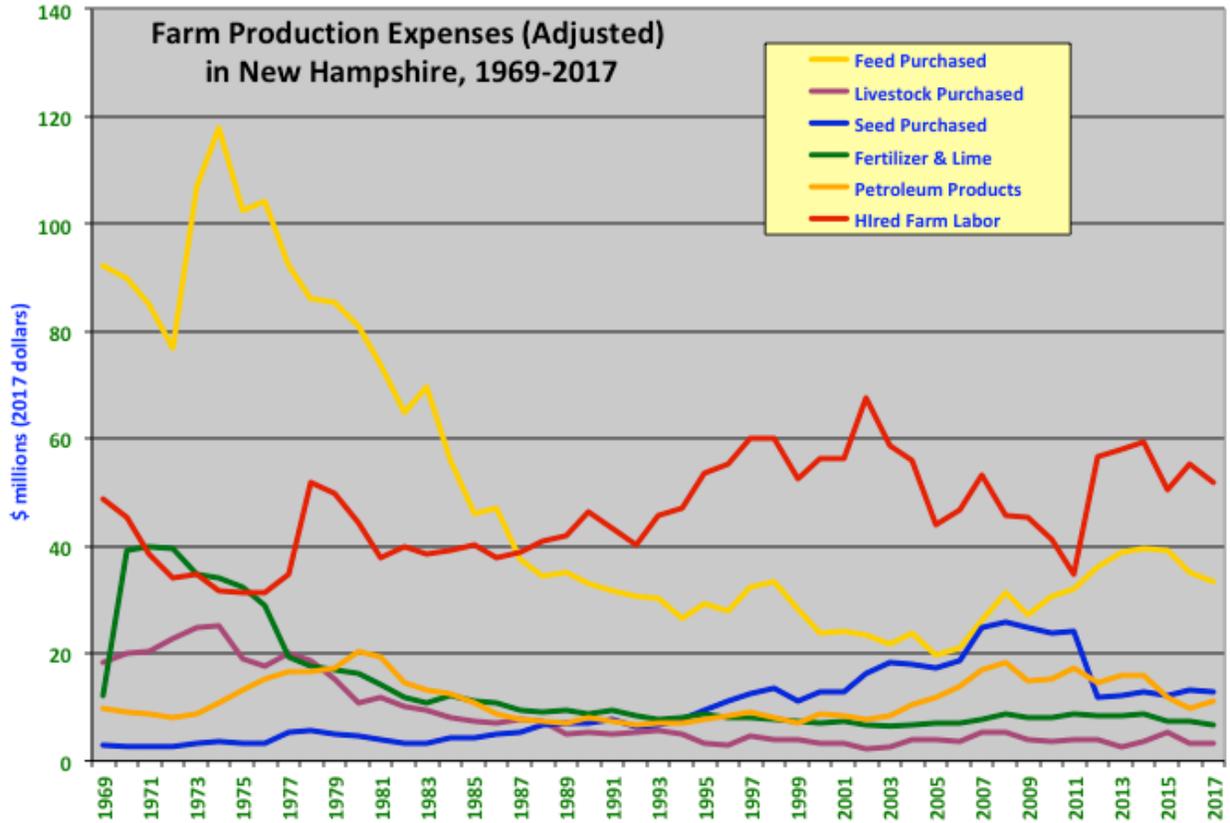


Source: Bureau of Economic Analysis. Adjusted for inflation using the Consumer Price Index published by Minneapolis Federal Reserve.

In an era in which more and more New Hampshire residents are being urged to eat more fruits and vegetables, sales have declined. This further illustrates the separation between farmers and consumers. Fruit sales (red line) peaked at \$34 million in 1973, and now stand at \$13 million. Vegetable sales (light blue line) peaked at \$30 million in 1989, and now have fallen to \$5 million. Moreover, a considerable amount of these sales are devoted to customers in Boston, New York, or other metropolitan centers, and do not feed New Hampshire residents.

Note that the chart above shows only sales, not profitability.

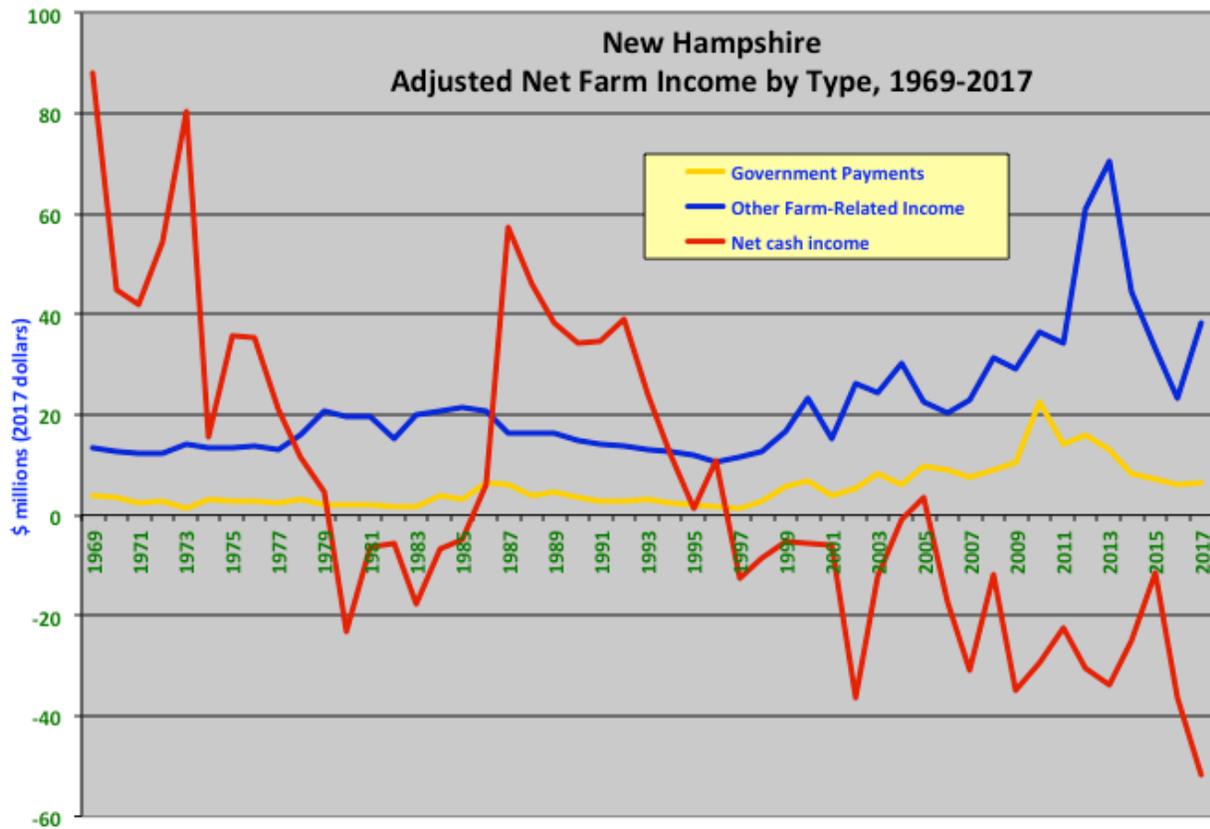
Chart 11: Farm Production Expenses (Adjusted) in New Hampshire, 1969 - 2017



Source: Bureau of Economic Analysis. Adjusted for inflation using the Consumer Price Index published by Minneapolis Federal Reserve.

The decline of feed purchases by New Hampshire farmers (gold line) also shows the waning of the dairy industry in the state before 2005, as does the decline in livestock purchases (purple line). The orange line on the Production Expenses chart above also shows two periods when farmers have trimmed energy costs, and the blue line shows how seed purchases have fallen since 2011. This suggests that one of the key factors behind rising production expenses is labor costs. Unlike most other inputs, however, labor costs (red line) often cycle through the New Hampshire economy. The \$52 million farmers now spend on labor is a strong element of the economic import of the farm sector.

Chart 12: New Hampshire Adjusted Net Farm Income by Type, 1969 - 2017



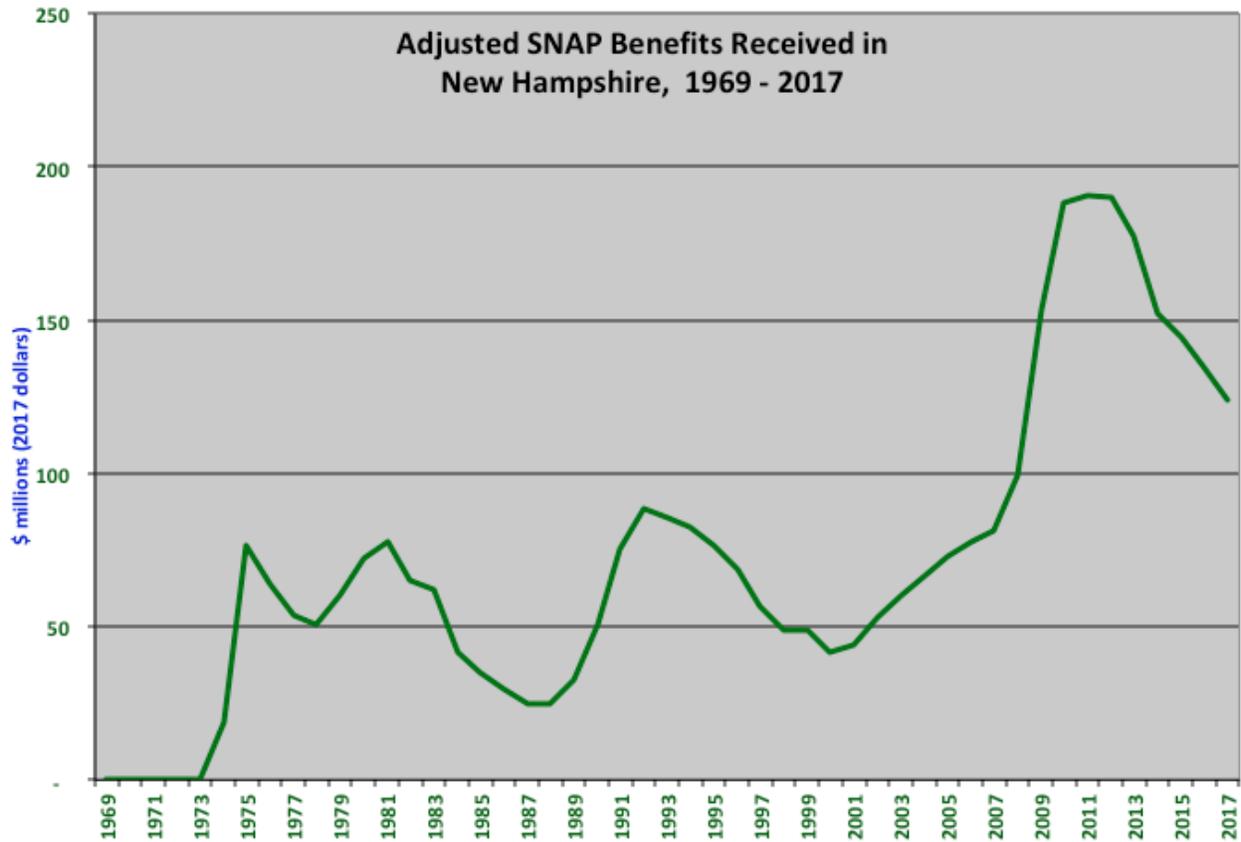
Source: Bureau of Economic Analysis. Adjusted for inflation using the Consumer Price Index published by Minneapolis Federal Reserve.

Chart 12 shows the three main sources of net income for farmers in New Hampshire. The primary source of income is not farming itself, but rather what is called “farm-related income” (blue line). As explained above, this farm-related income includes sales of forest products (\$4.6 million), agri-tourism income (\$4.0 million), custom work for neighbors (\$1.7 million), cash rents (\$585,000), patronage dividends, insurance payments, and more. Most (\$17.4 million) of the sources of this income were not specified by the Census of Agriculture for New Hampshire in 2017. *These data on farm-related income are drawn from the 2017 Census of Agriculture.*

The next largest source of net income for farm families was government subsidies (orange line), which averaged \$7 million over the years 1989 to 2017. Yet these subsidies only were given to 308 (7%) of the state’s farmers.

As noted above, raising crops and livestock does not pay for itself. In fact, farm production created an average \$8 million dollar loss to the state each year over the past 29 years (red line). New Hampshire farmers spent a combined \$226 million more to raise crops and livestock from 1989 – 2017 than they earned by selling these products. This red line is the same as shown on Chart 6, but appears different because the scale is smaller on this chart.

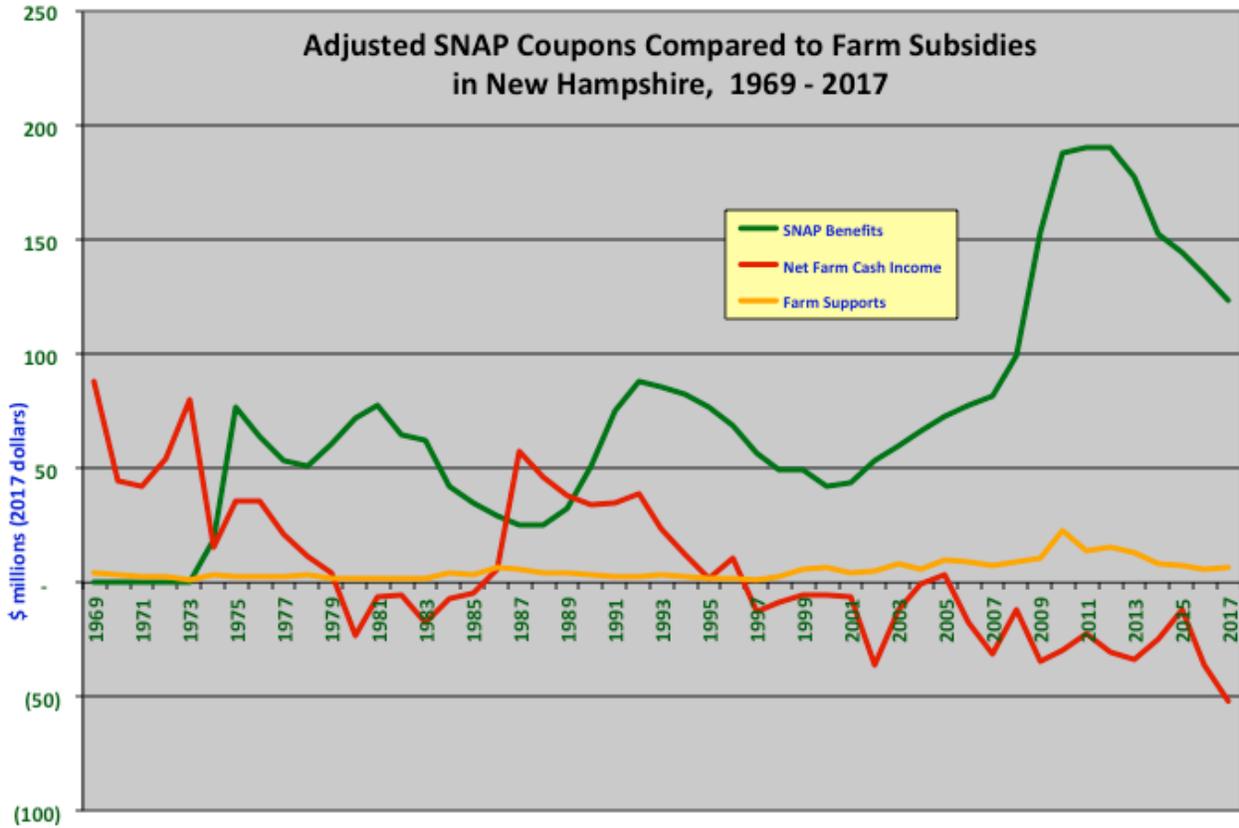
Chart 13: Adjusted SNAP Benefits Received in New Hampshire, 1969 - 2017



Source: Bureau of Economic Analysis. Adjusted for inflation using the Consumer Price Index published by Minneapolis Federal Reserve.

While farm income has become increasingly negative, more and more New Hampshire residents find themselves needing food assistance. SNAP benefits totaled \$124 million in the state in 2017, after peaking at \$191 million in 2011. Average benefits since 1989 have been \$95 million per year. No New Hampshire residents drew food assistance during the years 1969 to 1972.

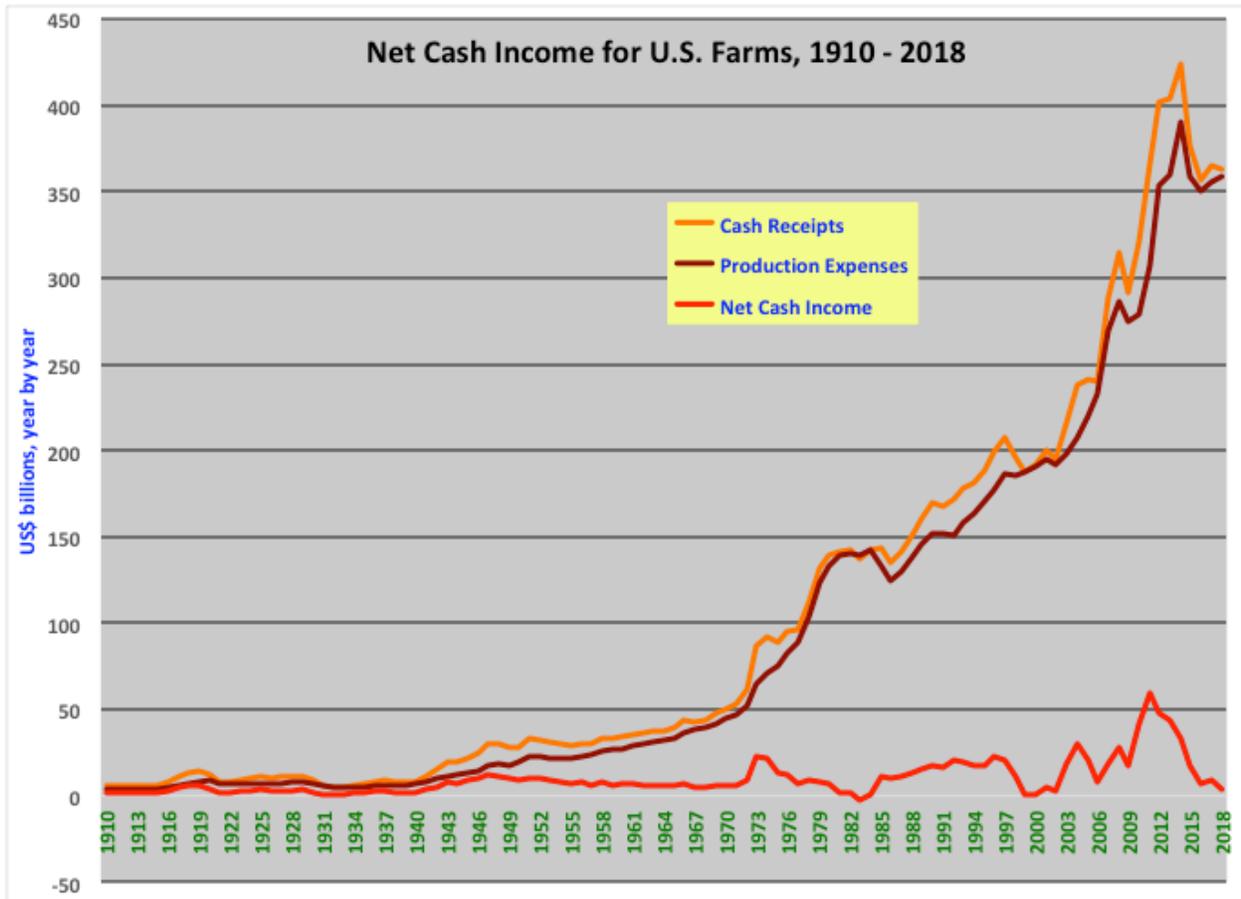
Chart 14: SNAP Benefits Compared to Net Farm Income in New Hampshire, 1969 - 2017



Source: Bureau of Economic Analysis. Adjusted for inflation using the Consumer Price Index published by Minneapolis Federal Reserve.

Chart 14 shows three sources of net income for farmers and low-income residents of New Hampshire since 1969. As the chart readily shows, SNAP benefits are a more important source of net income to the state than is farming, or federal subsidies for farmers, and this has been true since 1989. Over the past 29 years, while SNAP benefits averaged \$95 million per year, federal subsidies averaged \$7 million, and production expenses exceeded cash receipts by an average of \$8 million per year.

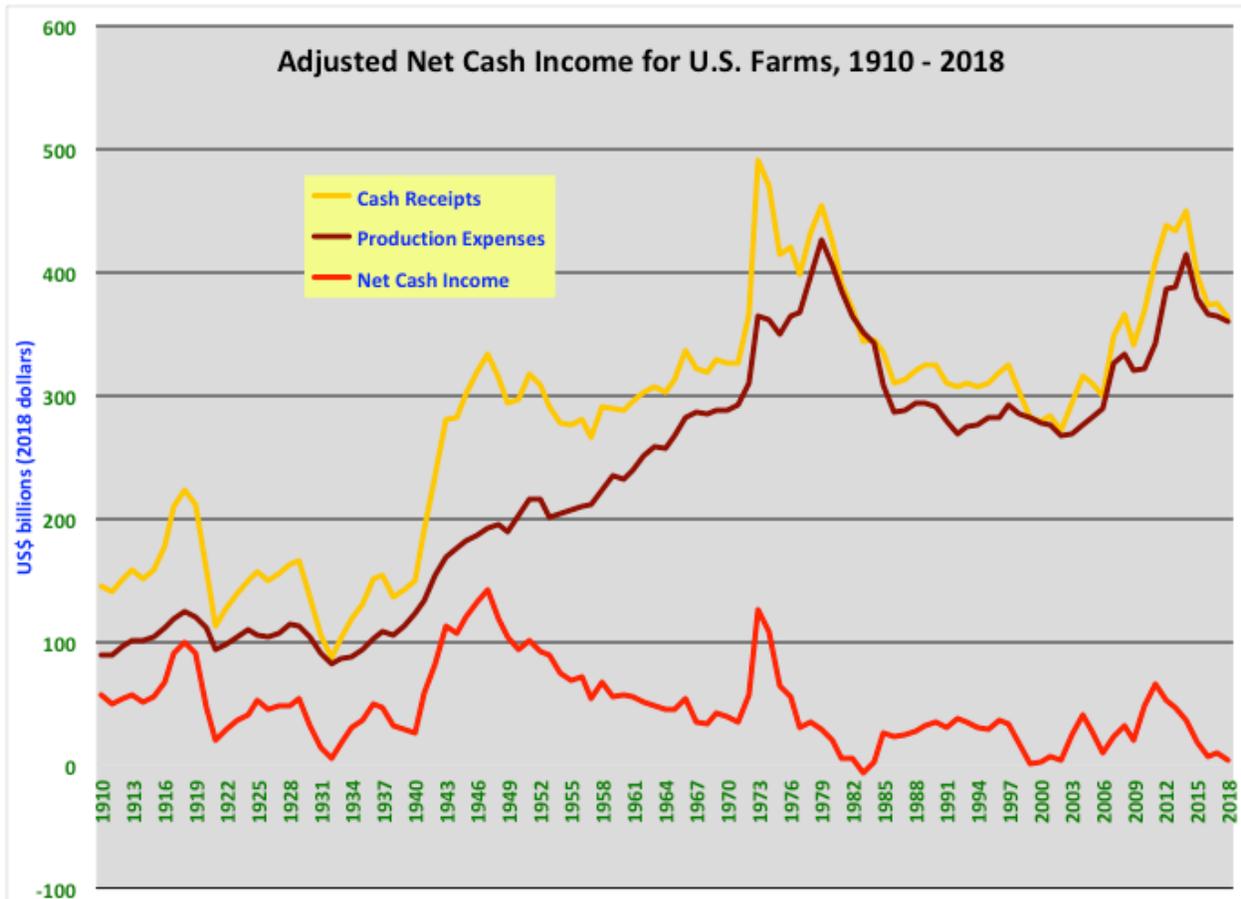
Chart 15: Net Cash Income for U.S. Farmers, 1910-2018



Source: Economic Research Service. Farm Income and Balance Sheet data.

As Chart 15 shows, cash receipts (orange line) have increased dramatically over the past century, from \$6 billion in 1910 to \$363 billion in 2018. However, production expenses (maroon line) rose just as fast, increasing from \$4 billion in 1910 to \$359 billion in 2018. This means that the net farm income (red line; cash receipts less production expenses) has moved from \$2 billion in 1910 (33% of sales) to \$4 billion in 2018 (1% of sales). In the country that proudly says “We feed the world,” there has been no appreciable growth in the value of net farm income, despite rising productivity and expansion to global markets. Looking at the net cash income as a percentage of sales, there has been a tremendous erosion of profitability, from 33% of sales to 1% of sales.

Chart 16: Adjusted Net Cash Income for U.S. Farmers, 1910-2018



Source: Economic Research Service. Farm Income and Balance Sheet data. Adjusted for inflation using the Consumer Price Index published by Minneapolis Federal Reserve.

Chart 17 shows the same data as Chart 15, except data have been adjusted for inflation, because the value of the dollar in 1910 was 25 times its value in 2018. Thus, dollars earned in 1910 are worth a great deal more than those earned in more recent years. Once adjusted for inflation, very different patterns appear in the data. Cash receipts (orange line) were valued at \$145 billion in 2018 dollars, while production expenses (maroon line) were valued at \$88 billion in 2018 dollars. Net cash income (red line) in inflation-adjusted dollars thus fell from \$57 billion to \$4 billion, of \$53 billion less. Current net cash income is similar to the levels farmers experienced during the Great Depression and the Farm Credit Crisis of the mid-1980s.

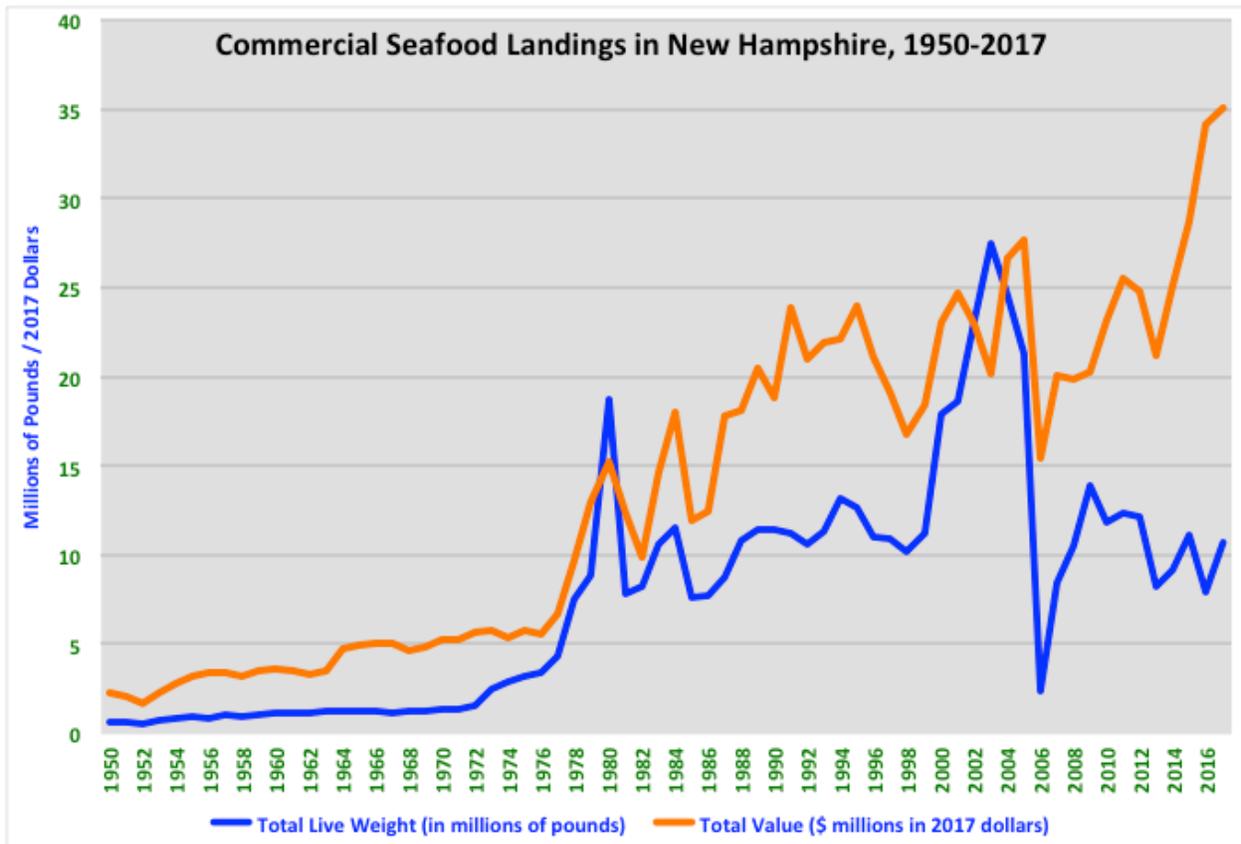
This chart also shows there are only four eras when net farm income was high. Those four periods were (a) During and after World War I when U.S. farmers supplied commodities for the war effort and the post-war recovery as one of the leading global suppliers; (b) During and after World War II for the same reasons; (c) In the height of the OPEC energy crisis when U.S. farmers traded grain to the Soviet Union in exchange for dollars; and (d) during the global housing finance crisis when speculators drove up the price of grain to artificial levels, and increased demand for corn for ethanol kept them high for a short while.

That is to say that the primary reasons U.S. farmers have prospered was when there was global dislocation and the U.S. was in a position to sell to foreign markets for a short period. Each peak, however, was followed by further deterioration of prices.

Moreover, the medical costs of diabetes treatment in the U.S. totals \$327 billion annually (American Diabetes Association). This is 90% of the value of all cash receipts earned by farmers, for this one diet-related illness.

Seafood Landings Data for New Hampshire and New England

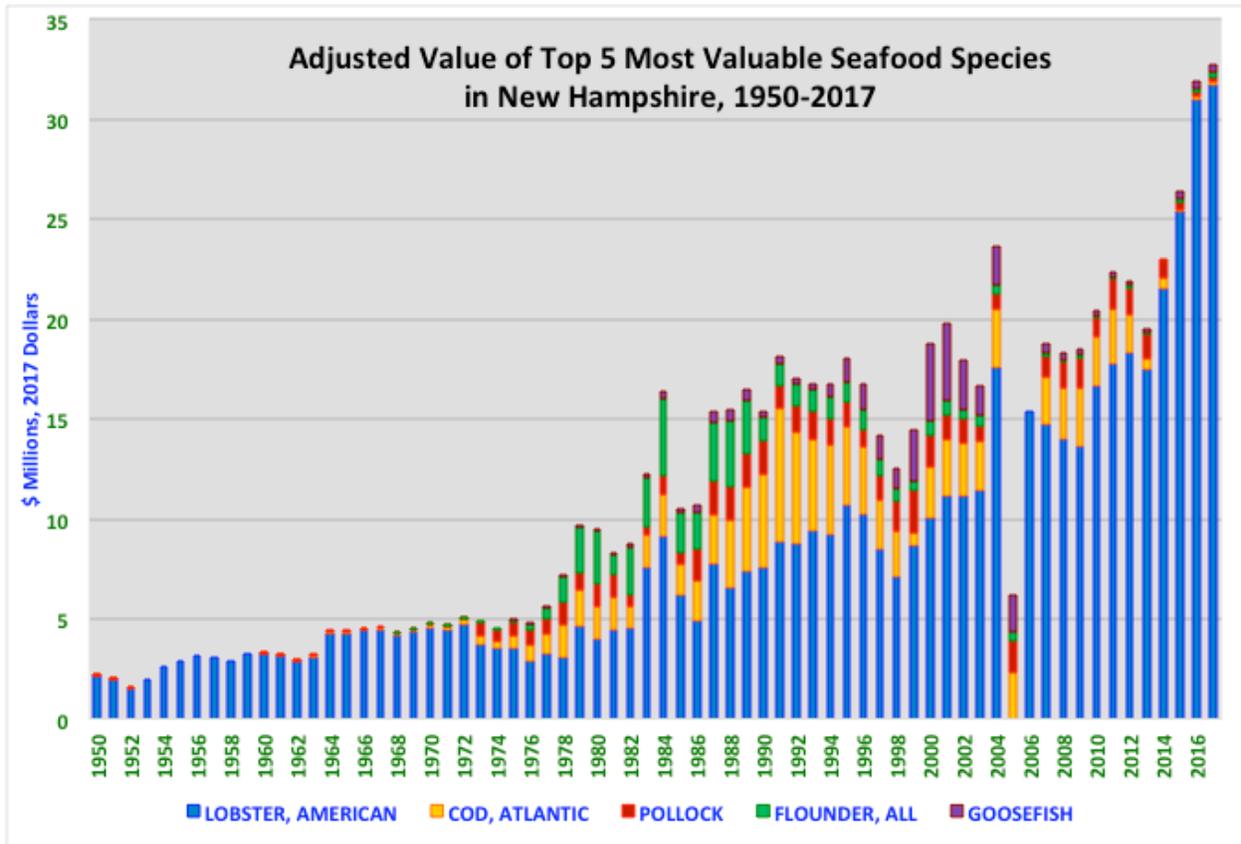
Chart 17: Commercial Seafood Landings in New Hampshire, 1950 – 2017



Source: National Marine Fisheries Service. NOAA Commercial Landings Database, 2019. Adjusted for inflation using the Consumer Price Index published by Minneapolis Federal Reserve. Chart by Megan Phillips Goldenberg, New Growth Associates.

The New Hampshire catch has remained near 10 million pounds per year since 1982, but has fluctuated widely depending on the lobster harvest. The value of the catch has risen dramatically, from \$2 million in 1950 (in 2017 dollars) to \$35 million in 2017, but with severe fluctuations that make it difficult for fishers to project their income. The causes of the variations in catch during the years 1979-1980 and 2000-2006 are not specified in this data set.

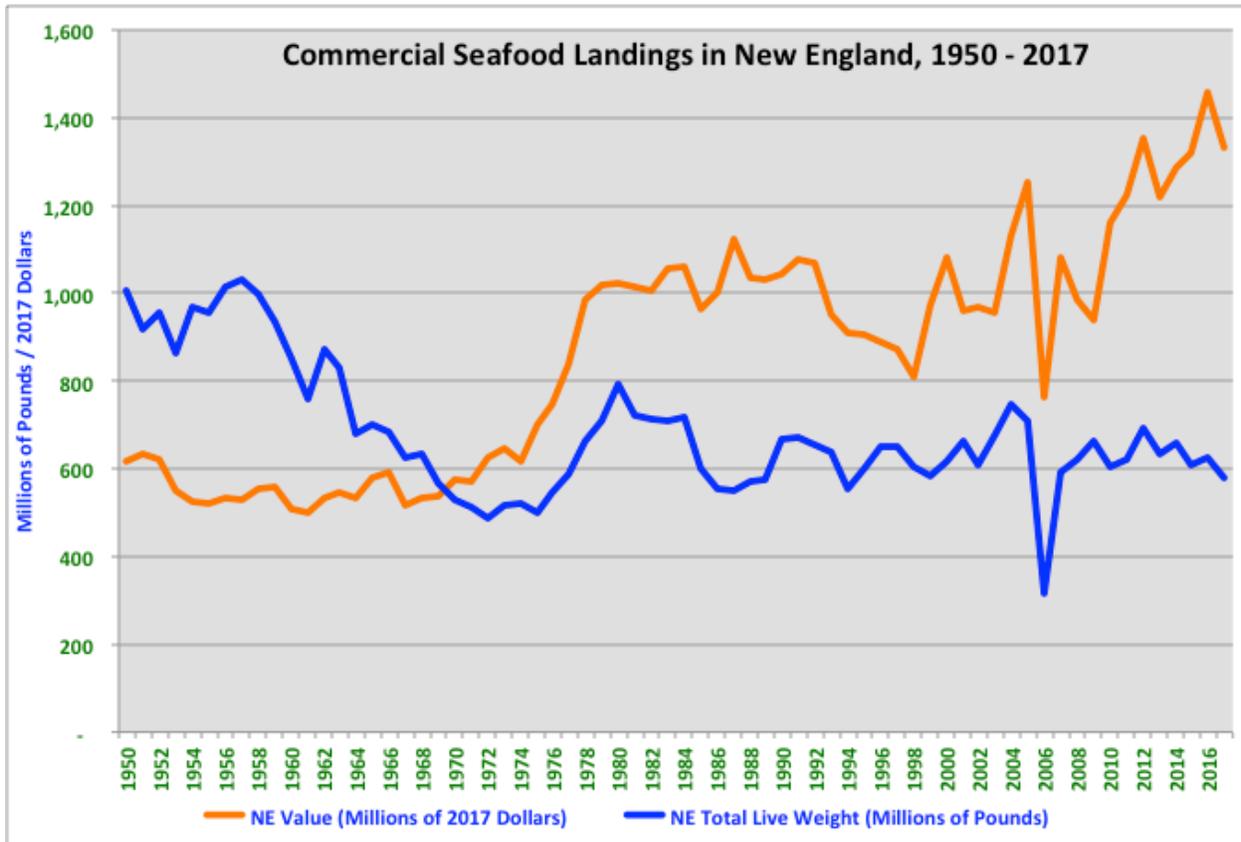
Chart 18: Adjusted Value of Top 5 Most Valuable Seafood Species in New Hampshire, 1950 - 2017



Source: National Marine Fisheries Service. NOAA Commercial Landings Database, 2019.
 Adjusted for inflation using the Consumer Price Index published by Minneapolis Federal Reserve.
 Chart by Megan Phillips Goldenberg, New Growth Associates.

Lobster is the primary seafood harvested by New Hampshire fishers, amounting to 94% of the state’s seafood harvest. The cod catch picked up in 1972, but diminished in recent years.

Chart 19: Commercial Seafood Landings in New England, 1950 - 2017

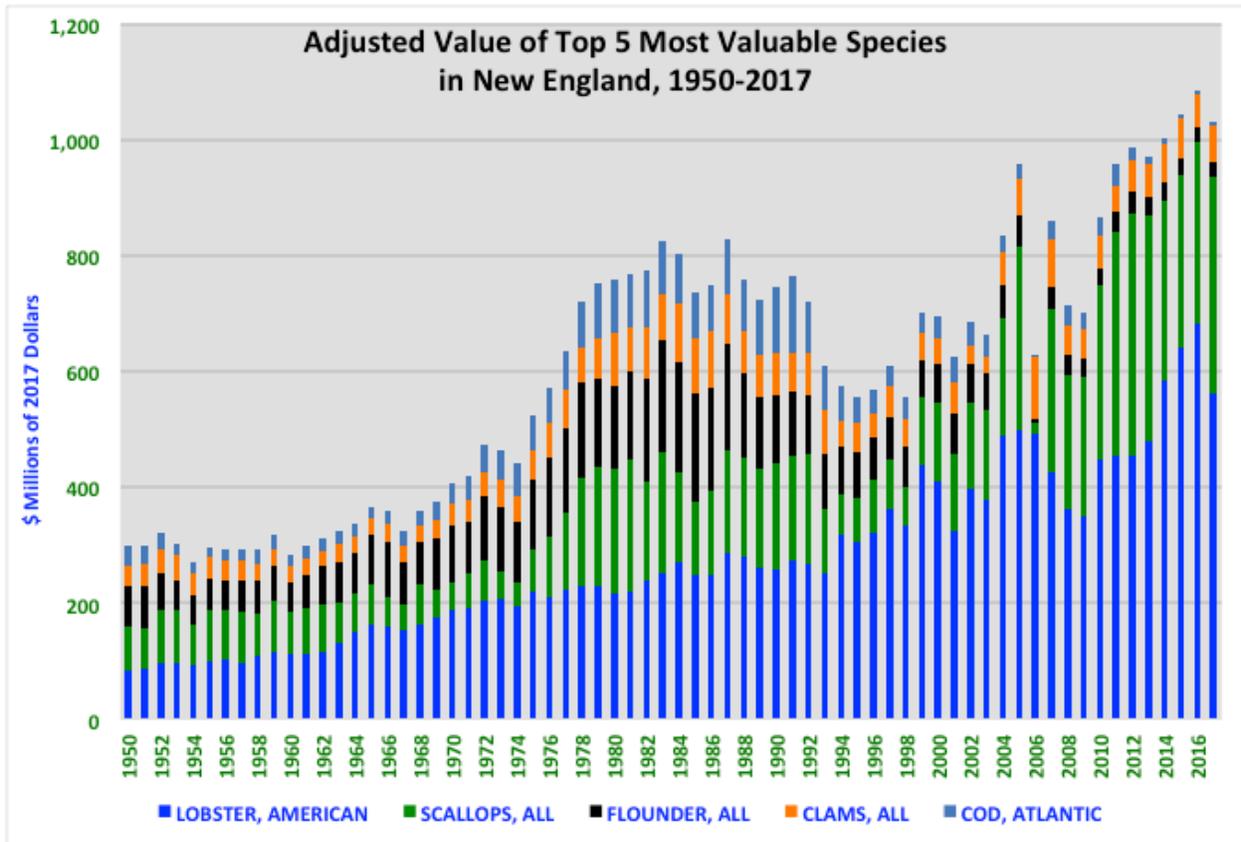


Source: National Marine Fisheries Service. NOAA Commercial Landings Database, 2019.
 Adjusted for inflation using the Consumer Price Index published by Minneapolis Federal Reserve.
 Chart by Megan Phillips Goldenberg, New Growth Associates.

In **New England** as a whole, the seafood harvest has remained fairly steady since 1986, except for the unusual year of 2006. Harvests now are far lower than the 1 billion pounds caught in 1950, but quotas hold them at steady levels. The value of the catch, however, has risen significantly, from \$600 million in 1950 (in 2017 dollars) to \$1.3 billion. Yet financial returns are uncertain.

The two main fishing states in New England are Maine and Massachusetts. New Hampshire accounted for about 2% of New England seafood landings from 1978 to 2017.

Chart 20: Adjusted Value of Top 5 Most Valuable Species in New England, 1950 - 2017



*Source: National Marine Fisheries Service. NOAA Commercial Landings Database, 2019.
Adjusted for inflation using the Consumer Price Index published by Minneapolis Federal Reserve.
Chart by Megan Phillips Goldenberg, New Growth Associates.*

For **New England** fishers, lobster is the most important product, but scallops are also a valuable item. Cod harvests are very small now.

Key data sources:

Bureau of Economic Analysis — Regional Income Data

<https://apps.bea.gov/itable/iTable.cfm?ReqID=70&step=1>

Food consumption estimates drawn from Bureau of Labor Statistics Consumer Expenditure Survey (*Calculated by Meter using population data from the Federal Census*)

<http://www.bls.gov/cex/home.htm>

U.S. Census of Agriculture

<http://www.nass.usda.gov/census/>

USDA/ Economic Research Service — Farm Income Data

<http://ers.usda.gov/Data/FarmIncome/finfidmu.htm>

Centers for Disease Control and Prevention, Behavior Risk Factor Surveillance Survey

<https://www.cdc.gov/brfss/index.html>

American Diabetes Association (2018). “Economic Costs of Diabetes in the U.S. in 2017.”

Supplementary Data. <http://care.diabetesjournals.org/lookup/suppl/doi:10.2337/dci18-0007/-/DC1>

National Marine Fisheries Service — Also known as the National Oceanic and Atmospheric Administration (NOAA), Department of Commerce

<https://www.fisheries.noaa.gov/science-and-data>

Citations

**When citing the data included in this report,
please cite both the original source and this report.**

For more information:

To see results from *Finding Food in Farm Country* studies in other regions of the U.S.:

<http://www.crcworks.org/?submit=fffc>

To read the original *Finding Food in Farm Country* study from Southeast Minnesota (written for the Experiment in Rural Cooperation): <http://www.crcworks.org/ff.pdf>

For further information: <http://www.crcworks.org/>

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