Executive Summary

In recent years, seafood has emerged as an increasingly critical part of the American diet. As U.S. consumers have become more health-conscious, the amount of beef eaten by the average American has dropped precipitously, falling by almost a fifth between 2005 and 2014 alone. In this environment, seafood has emerged as an increasingly important source of protein for many U.S. households. According to the National Oceanic and Atmospheric Administration (NOAA), U.S. seafood consumption per capita has increased roughly 30 percent since 1970, with Americans now eating almost 15 pounds of seafood per year. In more urban environments, a love of seafood and an interest in international cuisine has led to a small boom in the sushi industry, a sector that now brings in roughly $3.0 billion in revenue annually.

From a business perspective, many would assume this is good news for the U.S. seafood industry—a sector that employed more than 200,000 U.S.-born workers in 2015, according to U.S. Census data. The U.S. seafood industry, however, has been largely unable to capitalize on the increase in domestic seafood consumption. In the last 20 years, the share of seafood sold in the United States that was fished or processed here has dropped dramatically, leaving the industry capable of meeting less than 10 percent of U.S. demand. This has happened, ironically, at the same time that U.S. consumers have become more aware of the risks associated with imported foods. One poll conducted on the issue found that almost two out of every three likely voters in the United States believe imported foods were often or sometimes unsafe. In seafood, such fears seem particularly well-founded. When researchers from Oceana, a nonprofit that advocates for ocean conservancy, sampled more than 1,200 pieces of imported seafood from stores and restaurants nationwide, they found that one out of every three were fraudulently labeled—often masking fish that was improperly obtained or vetted for safety.

Many in the broader seafood industry point to one prominent factor that has kept them from keeping up with rising demand: The country’s dire shortage of seafood processing workers. Jobs at seafood processing facilities often are seasonal, meaning workers can go months without a paycheck. They also require long hours and often entail repetitive and physically draining work in cold or wet conditions. Given this, few American workers are willing to take on such roles, even though they pay higher than most positions open to those without college degrees. This leaves processors dependent upon foreign-born workers, a group increasingly hard to come by, given the challenges posed by our current immigration system.

In this report, we explore the economic costs associated with the country’s shortage of fish processing workers. Using data from the U.S. Department of Agriculture and the Bureau of Economic Analysis, we estimate how lowering our reliance on imported seafood, even marginally, would create jobs for thousands
of American workers. We also discuss how current visa programs—and the uncertainty around them—are far from sufficient to meet the industry’s current labor needs. Our work clearly shows that the U.S. fishing and seafood industry currently faces particularly turbulent waters. Improving the immigration system so that fishing processors can better recruit and retain needed labor would benefit not only fishing-dependent areas like Washington, Alaska, and Florida, but the broader U.S. economy overall.

KEY FINDINGS

➤ **The U.S. seafood industry is increasingly unable to keep up with growing consumer demand.** While 22.9 percent of the seafood products sold in the United States came from U.S. seafood processors in 2000, that figure had dropped to just 13.6 percent by 2005. Today, just 6.8 percent of the U.S. seafood supply is processed domestically.

➤ **American workers and the overall economy would benefit if the country could reduce its reliance on seafood imports.** If the domestic seafood industry were able to recapture just 7 percent of imports—essentially regaining the same market share it held in 2005—more than 11,000 jobs would be created for American workers in a variety of industries. The country’s total household earnings would grow by more than $450 million during that period as well, and gross domestic product would rise by almost $820 million annually.

➤ **Some U.S. states would see particularly large benefits if U.S. seafood processors reached their 2005 domestic market share.** Alaska, Louisiana, North Carolina, and Virginia would benefit the most from a lowering of our reliance on imported seafood. In Alaska, more than 3,400 jobs would be created and the state’s GDP would increase by almost $280 million. North Carolina and Virginia would each gain more than 1,000 jobs, while Louisiana would gain more than 2,300.

➤ **Labor shortages are one of the major factors keeping U.S. seafood processors from expanding to meet demand.** Between 2000 and 2016, the average monthly employment of seafood processing workers dropped by 23.5 percent, while real annual wages rose by 19.8 percent—a likely indication employers were competing for a limited and insufficient supply of workers.

➤ **Immigrants play a key role filling jobs that allow the country’s $38.5 billion seafood industry to thrive.** While immigrants make up just 14.5 percent of workers in the commercial fishing industry, they account for a far larger share of seafood processing workers, particularly in the most labor-intensive roles. In 2016, foreign-born workers made up 61.7 percent of all butchers and fish processing workers—those who use hand tools to cut meat or seafood. They also made up close to half of all workers who hand-package meat and seafood products.

➤ **The H-2B visa program does not currently cover the needs of U.S. fish processing firms.** In both 2016 and 2017, Congress failed to renew a provision that exempted returning H-2B workers from the program’s 66,000 visa cap, effectively cutting the number of visas available by more than half. Faced with an industry uproar, the Department of Homeland Security released 15,000 additional H-2B visas in mid-summer—a move that came too late in the season for many processors. In Alaska—the country’s largest fish processing state—many firms had to turn away fishing boats because they were short-staffed, costing the industry tens of millions of dollars in business.
The findings of this brief are highly relevant now. In recent months, members of Congress have introduced a flurry of immigration proposals that could dramatically restrict the number of foreign-born workers available to U.S. employers in the coming years. Prominent bills introduced in both the House and the Senate would sharply reduce the number of legal visas available through our immigration system—in one case, slashing their numbers in half over the next decade. Meanwhile, a measure being debated in the House would create a new temporary guest worker program that most experts say would fall far short of current labor needs. These measures are being considered at the same time that the current H-2B visa program—the pathway many fish processors use now to bring in desperately-needed foreign workers—is already blinking red. On the first day of application for the summer season this year, the U.S. Department of Labor received requests to bring in more than 81,000 H-2B workers, or more than double the number allowed per season under current visa caps. Given the influx of applications, for the first time in the program’s history, federal officials had to resort to a random lottery to decide how to allocate H-2B visas, leaving the fate of many seasonal businesses like fish processors up to chance.

Despite the profound impact that the current visa system has on the seafood industry, the needs of fish processors have not figured prominently into recent immigration debates. As this brief demonstrates, this is a mistake. Although the seafood industry is much smaller compared to the roughly $136.7 billion agriculture industry, it is nevertheless an important source of employment for American workers—particularly the U.S.-born working class. In 2016, almost 86 percent of all workers in the commercial fishing and hunting industry—the group that brings in the catch—were U.S.-born. Of those workers, more than 82 percent had less than a bachelor’s degree. The ability of the industry to support and create such jobs in the future will be highly dependent upon having an adequate supply of seafood processing workers. In a political climate where policymakers are focused on helping the working class in the wake of the 2016 election, the lack of attention paid to this industry is particularly frustrating.

In the coming months, Congress will need to take essential, forward-looking steps to shore up America’s struggling seafood industry. In both 2017 and 2018, the omnibus spending bill signed by President Donald Trump authorized the Department of Homeland Security to award more than 60,000 additional H-2B visas if it was determined that U.S. businesses would face “irreparable harm” without them. In 2017, however, DHS delayed its decision for months and then released only 15,000 visas, which came too late to help many floundering seafood processing firms. As of mid-2018, it is unclear whether this administration—already deeply skeptical of temporary visa programs—will release any additional H-2B visas at all. This level of uncertainty is already untenable for many seafood processing firms. Without workers, many have already begun scaling down their businesses or closing them entirely.

In an era when American consumers are demanding more seafood from safer sources, domestic seafood operators should be enjoying robust business growth, creating jobs not only in fishing but in related industries such as trucking and warehouse logistics. Whether they will be able to realize this unique opportunity and reduce America’s near total reliance on seafood imports will very much depend upon whether Congress is able to move past the partisan divisions defining today’s immigration debate toward practical, economically smart reforms.
Part I: Introduction

During more normal times, the future would look incredibly promising for Lake Packing Company, a baitfish plant based in Lottsburg, Virginia. The company’s chief product is menhaden chum, or ground up chunks of the strong-smelling menhaden fish, a bait used by sport fishermen to lure and catch large game. In recent years, fishing-oriented tourists have flocked to the Gulf of Mexico and the Florida Keys, leading to a spike in demand. “We can’t keep our product on the shelf,” explains AJ Erskine, a scientist who plays a leadership role at the firm.

But these are not normal times for the fish processing industry. For decades, fish processors have struggled to recruit workers to take on what is often physically demanding, wet work. Lake Packing Company is no different. The company offers packing jobs each season that come with heavily subsidized housing—costing $35 a week including utilities—and the ability to easily clear $800 weekly. Yet, despite a national recruitment push and the firm’s willingness to hire workers with no prior experience, Erskine could only manage to find three U.S.-based workers who were willing to come out for the first day of training in 2017. Of those, one left after 1 1/2 hours, and another after lunch. Both walked away with the boots, aprons, and gloves the company had provided. When it comes to keeping U.S.-born workers onboard, Erskine says, “That’s a typical year.”

What isn’t typical these days is that the company’s one source of reliable labor is sinking fast. Lake Packing Company, like many fish processors, has long relied on the H-2B program, a visa designed to bring in temporary foreign workers for seasonal jobs, to fill most of its packer positions. Many of the same workers returned to the plant—a small facility nestled on a tributary of the Chesapeake Bay—year after year, traveling back home to Mexico at the end of the season. In 2016 though, the U.S. government declined to reauthorize a provision that would allow H-2B workers who had worked in the United States any time in the past three years to return without counting towards the 66,000 cap on the number of H-2B visas available each year. With the number of H-2B workers able to come to the country severely restricted, Lake Packing did not receive the 35 laborers it needed to start work on April 1. Without them, the firm had to stop operations for four months during its peak season.

The impact on the company was immediate. Without reserves in storage, Erskine had to tell customers their orders could not be met. For Lake Packing, that meant not only losing immediate business, but the dismal prospect of losing some customers for good—a loss that could have profound, long-term implications for the company and its employees. “When you cannot supply the product due to a labor shortage, there is going to be a competitor who is going to supply it,” Erskine explains, “And once you’re replaced on the shelf, it’s very hard to get that place back.”

Unfortunately, stories like Erskine’s are all too common in today’s seafood processing industry. In recent years, many fish processing firms have faced unprecedented challenges finding the processing and packing workers that help them weather the high season, a problem that has only worsened in the current immigration climate. In Brownsville, Texas, roughly one out of every five shrimp boats were unable to head to sea in 2017 because they lacked enough laborers to remove the shrimp heads and ready them for sale. On the southwestern tip of Alaska, so much of the sockeye salmon run had to be left in the water that one expert estimated 10 million more pounds could have been processed if not for the labor shortage. Much like Erskine fears, such widespread challenges have only accelerated the wholesale replacement of U.S. seafood on American grocery shelves. Today, a full 93 percent of all the seafood sold to Americans is imported—a stunning figure that is showing no signs of decreasing.
In many rural pockets of the country, the impact of the seafood processing industry’s struggles is devastating. In the Northern Neck of Virginia, where Lottsville is located, hundreds of seafood firms once littered the waterfront. Today, just a handful remain—all fourth- and fifth-generation operations fighting for survival. In rural communities that live and die by the health of the seafood industry, displacement by foreign seafood competitors results in a ripple effect across many parts of the economy. When less seafood is produced, fewer boxes are ordered to package the finished product. Fewer long haul trucks are needed to transport it. And fewer American seafood workers—from the fishing boat captains to those employed in trading and sales—have steady jobs to do today, much less next season, a reality that depresses their spending.

In this report, we explore this ripple effect in more depth. To do this, we engage in a thought experiment, asking how the U.S. economy would be impacted if domestic seafood producers were able to make up just a small portion of the ground they have lost to importers in recent years. Using multipliers from the Bureau of Economic Analysis—which show how a rise in production in one industry impacts business activity in a host of others—we model what would happen if U.S. seafood producers once again supplied 13.6 percent of the seafood sold in the United States, the same share of the market they held as recently as 2005. Because many in the industry say such a large production goal would be entirely achievable if not for the dramatic shortage of labor, we use data from the U.S. Department of Labor to determine which parts of the country would be the most likely to boost their production—and also reap the largest economic benefits once it is achieved. States that indicated they needed the most H-2B workers in 2015 and 2016 are presumed to face the greatest labor needs, and be the most capable of scaling up operations if given access to a more robust and reliable source of workers.

The results we find are striking. If the U.S. seafood industry could recapture just the modest share of the domestic market they held in 2005, more than 11,000 additional jobs would be created for U.S. workers. Meanwhile, the GDP of the entire country would rise by almost $820 million per year. In some states, the impact would be particularly pronounced: Alaska would gain more than 3,400 new jobs for American workers, while Louisiana would see roughly 2,300. As we do not assume that U.S. seafood processors are able to recapture the roughly 23 percent market share they held as recently as 2000, our estimates can be seen as fairly conservative. But even the economic benefits we describe in this report are unlikely if Congress does not tackle immigration reform. We discuss in more depth why U.S.-born workers rarely take on seafood processing jobs, and why the current H-2B program must be expanded and improved for America’s struggling seafood processing industry to once again be on steady ground.

Erskine, for his part, is well aware of how the success of seafood processing firms can have a wider economic impact. When Lake Packing Company did not receive the H-2B workers it needed in 2017, the 15 to 20 U.S.-born workers the firm employs year-round in other roles were stuck in a holding pattern, unable to do their usual jobs.

When Lake Packing struggles, other industries are threatened too. In the last four years, Lake Packing has spent $650,000 upgrading its freezer and grinding equipment, helping the U.S. manufacturers who make the upgraded equipment. It is a frustrating situation for Erskine, given that the solution to his firm’s labor problem seems like it should be achievable. “We’re not asking for a couple hundred H-2B workers,” he explains, “We had a request for 35.” As this report shows, meeting the relatively small needs of seafood processors could have an outsized impact. Whether Congress will allow those needs to be met in the coming years, however, remains very much an open question.
Part II: The Rise in Seafood Imports

lobster from Maine. Crab cakes from Maryland. Shrimp gumbo from New Orleans. Given that many large American cities are famous for their local seafood dishes, it is easy to assume that the United States excels at producing its own seafood. The data, however, tells a far different story. In the last three decades, the amount of seafood sold in the U.S. that is processed domestically has declined precipitously.

The National Oceanic and Atmospheric Administration (or NOAA) has long tracked the origins of the U.S. seafood supply and is our primary source of data on import trends in this report. NOAA designates seafood as imported if it enters the country with the purpose of being either sold in American stores or consumed in a restaurant, home, or other setting. This means it does not include any seafood that is fished in U.S. waters but processed elsewhere—a segment that experts say is a small but important share of the market. Still, it is a strong gauge of the health of the domestic seafood processing industry, the key focus of our report.

In recent decades, the health of that industry has not looked promising. As recently as 1990, U.S. seafood processors produced roughly two out of every five pounds of seafood sold in the United States or 39.3 percent. That figure has steadily declined in the years since. By 2010, only one out of every nine pounds of seafood sold in the United States, or 10.9 percent, came from domestic sources. By 2015, the most recent years for which figures are available, U.S. seafood processors held just 6.8 percent of the domestic market—meaning that more than 93 percent of the seafood sold, and ultimately consumed in the United States, was handled and processed abroad. (See Table 1.) Seafood imports that year were valued at $19.3 billion.

The issue is similarly troubling when we view this in terms of pounds sold in the country each year. Since 1990, seafood consumption in the United States has grown. While the country consumed 7.0 billion pounds of seafood in 1990, the figure had risen to 7.8 billion by 2015. During that time, the number of pounds of seafood available in the United States from domestic producers declined sharply. While 3.6 billion pounds of seafood sold to Americans in 1990 was processed by U.S. companies, by 2015 that figure had fallen to just 814 million pounds—or less than a fourth of the 1990 volume. (See Figure 2.) It is worth noting that that figure is not representative of the total output of U.S. fish processors, since the amount exported by U.S. companies also increased substantially during that time. Nevertheless, given that many Americans in the last decade have become more interested in the sourcing of their food and local purchasing, or “buying local,” it gives a sense of how large of a business opportunity U.S. seafood processors have forgone.
There are many factors driving current import and export trends in the seafood industry. American shoppers have developed a taste for shrimp and tuna, most of which comes from Asia and Chile, while foreign consumers are more likely to purchase the Alaskan pollock, fish roe, and dogfish commonly caught by U.S. commercial fishing operations. This “seafood swap” as some experts have dubbed it, drives up costs—both to consumers and to our environment.

There is evidence, however, that the U.S. seafood industry would be entirely capable of reclaiming more domestic market share. A law Congress put into effect in 2006 established quotas on the number of specific species of fish that can be caught in an area each year. In some parts of the country quotas are not being met due to labor challenges or regulatory issues. Companies focused on the issue, including the Brooklyn-based Sea to Table, have reported success getting Americans to eat more unfamiliar domestically-fished species, starting with a large push to serve this seafood on college campuses. And most telling of all, many say the United States has a vastly underused capacity for aquaculture, or farmed-raised seafood, an industry not based on the whims or bounty of Mother Nature. In 2015, the United States ranked 18th in the world in terms of the amount of aquaculture it produced—an amount equal to 426,000 metric tons that year. This put us far behind China, which reported selling 61.5 million metric tons in 2015. It was also far less than what many much smaller countries—including Indonesia, Bangladesh, and Myanmar—were able to produce that year. (See Figure 3.)

Underscoring the reality that more seafood could be farmed on U.S. shores, NOAA and several states have taken steps in recent years to try to lessen our reliance on imported seafood through increased aquaculture. In 2011, NOAA launched a national initiative to increase the number of oysters, mussels, and other bivalves grown on U.S. coastal waters. In the months and years that followed, Washington, Connecticut, and Rhode Island started shellfish initiatives of their own. Meanwhile, Alaska has launched a program that aims to build a $1 billion aquaculture industry within 30 years. State leaders believe that in addition to shellfish like scallops, urchins, and king crabs, Alaska could expand its seaweed and sea cucumber production as well.
Part III: The Role of Immigrants in the Seafood Sector

When Americans think about the immigrants who play a role in the U.S. food supply some well-covered examples easily come to mind. Countless stories have described how foreign-born migrant workers help pick fresh produce like squash, asparagus, and strawberries in the field.\(^{24}\) In some dairy-heavy states, like Wisconsin and Texas, foreign-born workers often take on important manual labor jobs cleaning barns and milking cows.\(^{25}\) But what is rarely appreciated is that foreign workers also are a critical part of the country’s seafood supply chain—helping to process hundreds of thousands of pounds of fish that appear in U.S. supermarkets each year.

In the last section, we discussed how the United States could potentially increase its production of farm-raised seafood or even the volume of fish caught by American companies at sea. This would be hard to do, however, without a strong seafood processing sector. Although some fish caught in U.S. waters are readied for sale in other countries, that is not a viable option in the vast majority of cases. Much of what is caught needs to be processed quickly so as not to spoil, either on trawlers or by a team of workers onshore. Due to the expense of coastal property and dock space, seafood processing facilities are often located in smaller, more rural, coastal communities—areas where the local economy lives or dies based on what happens at sea.\(^{26}\)

In recent decades, a consistent labor pattern has emerged in these areas. While a variety of jobs in the broader seafood industry—such as the management of plants or the helming of seafood boats—are performed by U.S.-born workers, many of the line workers doing the more manual processing work are foreign-born. This is not surprising given the realities of seafood processing positions. Laborer jobs at seafood processing factories are often arduous, repetitive, and seasonal—meaning they offer work during only some portion of the year. They frequently take place on cold, wet floors. When it is high season, workers often put in long hours, meeting boats at sunrise and laboring in the night until the work is completed. Industry leaders in the $9.6 billion seafood processing industry have long said that few—if any—U.S.-born workers are willing to take on such roles.\(^{27}\) With the U.S. unemployment rate sitting below

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**FIGURE 3: TOP COUNTRIES FOR AQUACULTURE PRODUCTION IN METRIC TONS, 2015**

<table>
<thead>
<tr>
<th>Country</th>
<th>Aquaculture Production in Metric Tons</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>61,536,375</td>
</tr>
<tr>
<td>Indonesia</td>
<td>15,649,311</td>
</tr>
<tr>
<td>India</td>
<td>5,238,019</td>
</tr>
<tr>
<td>Vietnam</td>
<td>3,450,200</td>
</tr>
<tr>
<td>Philippines</td>
<td>2,348,159</td>
</tr>
<tr>
<td>Bangladesh</td>
<td>2,060,408</td>
</tr>
<tr>
<td>South Korea</td>
<td>1,676,489</td>
</tr>
<tr>
<td>Norway</td>
<td>1,380,890</td>
</tr>
<tr>
<td>Egypt</td>
<td>1,174,831</td>
</tr>
<tr>
<td>Japan</td>
<td>1,103,235</td>
</tr>
<tr>
<td>Chile</td>
<td>1,057,742</td>
</tr>
<tr>
<td>Myanmar</td>
<td>999,630</td>
</tr>
<tr>
<td>Thailand</td>
<td>897,096</td>
</tr>
<tr>
<td>Brazil</td>
<td>575,260</td>
</tr>
<tr>
<td>North Korea</td>
<td>553,950</td>
</tr>
<tr>
<td>Malaysia</td>
<td>506,965</td>
</tr>
<tr>
<td>Ecuador</td>
<td>426,410</td>
</tr>
<tr>
<td>United States</td>
<td>425,973</td>
</tr>
</tbody>
</table>

*Source: Food and Agriculture Organization of the United Nations.*
4 percent, many say their labor woes are only worsening.28

To explore this issue in more depth, we turn to the 2016 American Community Survey (ACS). As in past NAE research, we use shorthand term “seafood processing industry” to refer to the U.S. Census Bureau industry category listed as “seafood processing and miscellaneous food manufacturing”, an industry that includes thousands of seafood processing workers.29 Similarly, the “commercial fishing industry” we describe in later sections refers to the fishing, hunting, and trapping industry as defined by the U.S. Census in ACS data. While these two sectors encompass more than strictly seafood, they are the best proxies available in the ACS to study the U.S. seafood industry overall.30

Our work shows that foreign workers do indeed play a critical role in seafood processing. In 2016, more than one out of every four workers in the seafood processing and miscellaneous food manufacturing industry were foreign-born, a far greater share than the 13.3 percent of the total U.S. population they represented that year. (See Figure 4.) The picture becomes even clearer, when we drill down to the specific occupations requiring large amounts of manual work. More than three out of every five butchers and fish processing workers—people who use hand tools to cut meat or seafood—were born outside of the United States. Similarly, almost half of hand packers and packagers within the industry are foreign-born, as well as 44.3 percent of “other food processing workers”—a category that includes fishcake makers, fish-egg processors, and seafood-can fillers. (See Figure 5.) The workers performing jobs in the industry as packaging and filling machine operators as well as janitors and building cleaners were also largely immigrants, with more than a third of workers in both of those occupations were foreign-born in 2016. (See Figure 5.)

Richard Gollott, the owner of the Golden Gulf Coast Packing Company in Biloxi, Mississippi, knows all too well how important foreign-born workers are to the survival of the seafood processing industry. He has
seen the dynamic play out for decades. Gollott, a third-generation fish processor, left the family business and broke out on his own in the 1960s. Back then, retired fishermen used to fill jobs shucking oysters, which involved methodically hammering open shells and cutting out meat during long, early morning shifts. Within a decade, the fishermen were aging out of the workforce and no others emerged to replace them. “As the population around here got older,” Gollott says, “their kids weren’t interested in the work.”

Back then, Gollott says it was Vietnamese refugees who saved his business. In the mid-1970s, thousands were settling along the Louisiana coast and pursuing seafood processing roles. Gollott began driving some of them from New Orleans to his plant in Biloxi, Mississippi on the weekends. Later, he helped many resettle along the Mississippi coast, where a generation powered the region’s seafood processing plants. Now, however, those refugees are beginning to retire, leaving him short-staffed once again. “History,” Gollott says, “is repeating itself.”

In 1984, Gollott switched to processing shrimp, in part to take advantage of some mechanized labor. But he still needs workers, and Americans today seem no more interested in the tedious job of deheading shrimp than they were in cutting open bivalves. Once, desperate for help, Gollott arranged to hire prisoners, but the inmates quickly showed a preference for jail over seafood processing work and the experiment ended within the year.

Without other options, Gollott now relies on the H-2B visa program to hire non-immigrant, seasonal foreign labor. “They play a very significant part in our industry and have for the past 10 or 15 years,” says Gollott, who also serves on the state’s Commission for Marine Resources. “If we don’t get them, it really throws a crimp in us around here.” He experienced these struggles in 2017 when Congress dramatically constricted the supply of H-2B visas by ending a policy that exempted returning workers from the cap on the number of H-2Bs issued each year. Gollott did not receive the 15 to 18 H-2B workers he was counting on, and was forced to scale back operations. That, in turn, hurt the 30 local workers he employs—most of them U.S.-born individuals filling roles packing shrimp, driving equipment, and handling office duties. “Usually in the middle of a season we work 18 hours a day. Our people get a lot of overtime,” Gollott explains. But without the extra lineworkers, less shrimp was processed, and there was less work for the U.S.-born workers.

In the next section, we estimate how reducing our reliance on imports—and boosting U.S. seafood processing production—would have a knock-on effect, creating jobs not only in seafood but in other downstream industries as well. For his part, Gollott knows that when his business slows, a variety of other American businesses are hurt. “It [affects] everything: The number of boxes we buy, the packing material, the gasses that we use to freeze the shrimp,” Gollott says. And U.S. processors cannot simply raise prices to compensate for reduced supply because they’re competing with cheap, imported seafood in the grocery stores. “I’m worried,” Gollott says, “My company is probably big enough and strong enough to survive a year or two [in the current climate], but long term, I’m not going to do it.”

Part IV: The Economic Benefits of Reducing our Reliance on Imported Seafood

One of the most persistent themes of President Donald J. Trump’s 2016 campaign was the need to put “America First”—in part by reducing our reliance on imports. Trump talked frequently about the damage he believed was done by the North American Free Trade Agreement (NAFTA) and the Trans-Pacific Partnership (TPP), a far-reaching trade agreement with 11 Pacific Rim countries. Rarely mentioned in this debate, however, was the country’s $38.5 billion seafood sector, a segment of the
economy where the share of products imported has risen dramatically in recent years. This omission occurred despite the fact that bolstering the seafood industry has the potential to impact a relatively large number of American workers; In 2015, roughly two and a half times more U.S.-born workers held jobs in seafood than worked in coal, an industry that garnered much more attention on the 2016 campaign trail.32

But just how much would the U.S. economy benefit by decreasing its reliance on seafood imports? To tackle this question, we built a model that estimates what would happen if the U.S. seafood industry were able to reclaim a small sliver of the domestic market. Specifically, we assume that instead of providing 6.8 percent of the seafood sold in the United States each year (their 2015 market share), U.S. seafood producers instead are able to provide 13.6 percent—the share they supplied just 10 years earlier (in 2005). Using data from the U.S. Department of Agriculture, we estimate that, to achieve that goal, $1.4 billion worth of seafood that was imported in 2015 would instead need to come from U.S. suppliers, who would boost their production levels to make up the difference. Using multipliers from the Bureau of Economic Analysis, we then estimate how that $1.4 billion in added seafood production would impact not only other seafood workers but those employed in related industries like equipment manufacturing and transportation as well.33

Our analysis shows that thousands of American workers would benefit if U.S. seafood processors recaptured their 2005 market share. More than 11,000 additional jobs would be created for American workers in the seafood industry and related industries throughout the economy. The country’s GDP would grow by almost $820 million per year, and U.S. workers would also earn almost $454.9 million annually. If $1.4 billion of today’s U.S. seafood imports instead came from domestic sources, an estimated...

11,045 jobs would be created for U.S. workers

$454.9 million in additional workers earnings would be generated

$819.4 million would be added to the overall U.S. GDP

Of course some states are more dependent upon a robust seafood industry than others. In Louisiana, for instance, one in every 70 jobs is seafood-related.34 Similarly, in Alaska, more workers are directly employed in the seafood industry than in any other industry in the private sector.35 Our work finds that both of those states—as well as several others—would see particularly large benefits if U.S. seafood processors were able to better meet domestic demand. In Alaska—the state that would see the largest impact as stated earlier—more than 3,400 jobs would be created for American workers. Alaska’s GDP would also grow by $277.8 million. This would be a crucial benefit for a state that has been hard hit by declines in its oil and gas and construction industries in recent years.36 In March 2018, Alaska had the highest unemployment rate of any state in the country; a full 7.3 percent of the population was unemployed compared to the national rate of 4.1 percent.37

Our work shows that recapturing the seafood industry’s 2005 share of the domestic market would also have widespread benefits for several states in the Mid-Atlantic and Southeast. For instance, we estimate that Louisiana would have to boost its production of seafood by $269.1 million per year to help the country
make back the ground lost to importers—a feat that would create more than 2,300 jobs and $171.6 million in GDP growth each year. North Carolina and Virginia are estimated to gain roughly 1,500 and 1,100 jobs, respectively. Maryland and Texas would each see their state GDPs rise by more than $56 million. (See Figure 6.)

The ability of increased seafood processing production to create more jobs for American workers is not surprising given the dynamics of the seafood industry. For one thing, although foreign laborers often do the more manual, on-the-line work in seafood processing factories, there are many other roles within the industry that are typically filled by U.S.-born workers. For instance, more than 96.0 percent of booking, accounting, and auditing clerks within the seafood processing industry are U.S.-born. So are more than nine out of every 10 of the industry’s secretaries and administrative assistants, and a similar share of its managers in the marketing, advertising, and public relations fields. (See Figure 7.)

More importantly, a strong seafood processing industry also helps the country’s commercial fishing industry thrive. That industry in particular is heavily staffed by U.S.-born workers. In 2016, just 14.5 percent of all workers in the commercial fishing industry were foreign-born. The industry instead provided jobs to more than 51,000 U.S.-born workers. Many of the American workers dependent upon these jobs to more than $1,000 U.S.-born workers. Many of the American workers dependent upon these jobs to had not earned a bachelor’s degree, a group that has faced slow wage growth and other workforce challenges in recent decades. In 2016, a full 82.2 percent of U.S.-born workers in the commercial fishing industry held less than a bachelor’s degree.

![Figure 6: Estimated growth if U.S. seafood processors recaptured their 2005 market share, by state](image)

![Figure 7: Occupations within the seafood processing and miscellaneous manufacturing industry with largest share of U.S.-born workers, 2016](image)
This spring, Hoopers Island, a small, rural community off Maryland’s eastern shore, demonstrated how a slowdown in local seafood processing—and the resulting uptick in imports—can hurt an area’s economy. For decades, the 20 licensed crab processing firms on the island have relied on foreign laborers brought through the H-2B program to fill jobs as crab pickers—a role that involves methodically cracking open steamed crabs and removing the meat for sale. This year, however, the local crab processors did not have good luck in the random lottery that decided which firms would receive H-2B visas. A full 200 crab pickers that local processors were counting on never arrived—a group that made up almost half the seasonal workforce.

The impact on the area’s economy was swift. Without workers, some crab shops—such as Russell Hall Seafood, a family-owned company founded almost 80 years ago—remained empty at the start of the crab season, unable to begin operations. Such slowdowns had consequences for a whole variety of other local businesses. Seafood processors without workers didn’t buy crabs, hurting the revenue of commercial fishing operations. With fewer customers, commercial fishermen did not buy as much baitfish, leading to layoffs in that industry as well. Even the Hoopers Island General Store, a popular spot selling everything from groceries to gas to hunting supplies, felt the pinch. Owner Katie Doll told one journalist that as the crab industry cratered, sales in her store hit the lowest point in six years.

Local fishermen felt that their area was paying a steep price for relying on Mexican labor. Yet, few—if any—American workers seemed interested in the roles, despite the fact that a skilled crab picker can make as much as $16.25 an hour working piecemeal. The lack of workers and slowdown of domestic crab production “trickles all the way down the line,” Burl Lewis, a local bait fisherman, told The Wall Street Journal. “The Mexican labor creates jobs for Americans. It’s creating my job.”

Part V: Why Current Visa Programs Are Not Meeting the Needs of U.S. Fish Processors

In an environment where seafood processors have trouble finding Americans willing to take on their most difficult roles, an immigrant guest worker program, if properly implemented, could represent a critical lifeline—matching employers to the workers they so desperately need. Indeed, the H-2B visa program used by many seafood processors looks on paper like it could be an ideal solution the industry’s recruitment problems. The visa brings in seasonal workers for nonagricultural roles, a perfect fit for an
industry where the majority of production workers like crab pickers and salmon roe technicians work for only short stints during the year. The program also offers 66,000 visas annually—33,000 for the summer season and 33,000 for the winter. Although the seafood processing sector as a whole employed roughly 208,000 workers in 2016, that still represents a meaningful number.

In reality, the H-2B program is highly problematic for many seafood processing firms—and in the last two years, the situation has only worsened. The H-2B program has long been both expensive and overly cumbersome, translating into a major strain for smaller companies. Seafood processors applying for the visa must submit paperwork to the U.S. Department of Labor, their state workforce agency, U.S. Citizenship and Immigration Services, and even their local newspaper, where they must take out at least two job ads to ensure no Americans are interested in the job. Companies pursuing visas frequently must employ lawyers to help them navigate the lengthy process and any needed appeals. Given all of that, NAE has estimated that the average firm spends $1,140 to hire just one H-2B worker—in addition to whatever it spends on salary. It is also common for the entire process of filing for a visa, start to finish, to take a month or longer.

The larger problem in recent years, however, has concerned supply. Despite making up one-fifth of agriculture’s gross domestic product, the seafood industry is not allowed to take advantage of the H-2A, an uncapped visa program used to fill seasonal agriculture roles. Instead, it shares the 66,000 H-2B visas available each year with employers in a variety of labor-intensive industries, including landscaping, dairy, and tourism and hospitality. Recent policy changes have led to the H-2B program becoming even more insufficient to meet the needs of U.S. industries. While in the past, workers who had come to the United States on the H-2B anytime in the preceding three years were exempt from the cap on the number of H-2Bs issued each year, Congress allowed that “returning worker” exemption to expire in 2017—a move that effectively cut the number of H-2B visas available dramatically.

The strain that move put on the seafood processing industry was almost immediately apparent. At the start of shrimping season in the Gulf of Mexico, close to 200 boats sat moored in Brownsville and Port Isabel in Texas, unable to leave because they lacked enough deck hands and workers to dehead the catch. With each boat typically bringing in $4,000 worth of shrimp per night during the high season, every day that delay continued was incredibly costly. Processors of crawfish in Louisiana and salmon in Alaska faced similarly steep losses.

Members of Congress from seafood-heavy states, of course, heard plenty of complaints about the large shortage of visas. In response, in both the 2017 and 2018 omnibus budget bills they added a provision that allowed the DHS to issue more than 60,000 more H-2Bs above the 66,000-annual cap, if the DOL saw a labor need. Despite the pleas of the seafood industry, the administration opted to take a highly conservative approach. In 2017, it waited until halfway through the summer season—or July 19—to make available 15,000 more H-2B visas. As of June 2018, they had yet to take advantage of the potential extra pool of visas at all.

For plenty of seafood processors—who knew it would be three additional weeks before visas were processed and H-2B workers arrived on site—2017’s infusion of additional H-2B visas arrived too late to justify the expense of filing and paying for a new application. By the time DHS made its decision, Gollott from Golden Gulf Coast Packing had already missed the start of his processing season. He had originally applied in March for 14 H-2B shrimp processors to begin work in early June, but was unable to secure any visas because they had already been issued to employers with earlier start dates. By July, Gollott had already cut his production in half and slashed hours for his two dozen U.S. workers. Going through the
hassle and expense of refiling H-2B applications for workers who would not arrive until August made little sense. “I guess they helped someone with [those additional visas], but they sure didn’t help the shrimp industry,” he says, “By the time we did all the work to get the visa, our season would have just about been over.”

Erskine, of Lake Packing, voiced similar frustrations. While his firm took advantage of the pool of additional visas, they still came so late that his firm missed about half of its season, which typically runs from April 1 to November 30. The four months Lake Packing lost could not be made up by simply hauling in more baitfish, a migratory and heavily regulated species. “[The extra visas were] helpful, certainly, I just don’t understand why it took four additional months to get there,” Erskine says. “I know there were many seafood companies that said, ‘This is too late.’”

33,000
Total number of H-2B Visas Available for Summer 2018

81,008
Number of Applications Received on January 1, the first day of application season

But this year, as the same wait continues, the H-2B visa program is already overburdened. On January 1 of this year, the first day employers could apply for H-2Bs for the summer season, the Department of Labor received applications to bring in more than 81,000 H-2B workers—or more than double the 33,000 allowed each season under current caps. For the first time in the H-2B program’s history, which applications ultimately got processed was decided via a random lottery, leaving the winners and losers up to chance.48

For the seafood processing industry, a lottery represented particularly bad news. Because their industry represents a relatively small share of the total number of H-2B requests submitted each year, the odds of making it through the selection process are fairly low. In the first half of 2018, for instance, employers applied to the Department of Labor for 4,277 visas for “meat, poultry, and fish cutters and trimmers,” the most popular job title used by the seafood industry to bring in laborers.49 The landscaping industry, meanwhile, applied for 63,203 visas for landscaping and grounds keeping workers. That category made up more than half of all H-2B labor certification requests during the first half of the year.50 (See Figure 10.)

The timeline with which applications can be submitted also does not favor many seafood processors—like Texas shrimp processors and Cape Cod clam shacks—whose seasons are incredibly short, beginning in mid to late summer. Employers are prohibited from applying for H-2B visas until they are within 90 days of a potential worker’s start date.51 When the pool of visas is drained early, firms with a later start dates never even get a chance to apply before the annual cap is reached. Faced with this predicament, many seafood processors and hospitality companies are opting to apply using start dates weeks or even months before their actual season begins—an expensive prospect given that H-2B workers must be put on the full-time payroll on whatever start date is listed on their application, whether they’re actively processing fish or not.52

The broken nature of the H-2B program is deeply familiar to Gary Bauer, the owner of Pontchartrain Blue Crab in Slidell, Louisiana. For 17 years, Bauer’s firm relied on several dozen crab pickers from Mexico to fill
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some of its most difficult positions. The workers often stood or sat at long, metal tables for 10 to 12 hours a day, slicing open crab shells and scooping out chunks of cooked meat. The work was tough on the hands, but it represented a good opportunity for his workers, all of whom made at least $10 an hour—or much more, if they were skilled, fast pickers working piecemeal. As a sign of their satisfaction, roughly 90 percent of his seasonal staff returned year after year. The majority had been with him for more than a decade, paying U.S. taxes and then traveling home at the end of the season.

However, in 2017, much of that changed. Just like in past years, Bauer applied to bring in 96 crab pickers for his nine-month season, which was to begin on April 15. But without the returning worker exemption, the visas were much more difficult to come by. By late May, six weeks into his season, he had yet to receive a single H-2B worker—a first in his company’s history. As his factory sat ominously silent, Bauer found himself spending $20,000 per month on overhead costs. “This could end my business,” he said at the time, “I feel like we’re dying a death of a thousand cuts.”

Those cuts, of course, affected more than just Bauer. Each year, his large factory purchases $5 million in crabmeat from local fishing operations. His business also employs 21 full-time American workers, many of whom couldn’t work while he waited for visas. Bauer says he learned the lengths other businesses are going to in the desperate hunt for H-2Bs. “A lot of people moved their date of need up, realizing what was going to happen,” he says. By using the actual April 15 date when he needed workers, Bauer was too far back in line to make the cut.

Gaming the H-2B system is obviously not a good, long-term plan, but the current system leaves Bauer with few other options. Bauer says Pontchartrain Blue Crab would happily hire local, American workers. But in 17 years of advertising the jobs — a requirement of the H-2B visa that also mandates he offer a job to any qualified American applicant — Bauer says he has never gained a single U.S.-born crab picker. Raising wages much more than he has already also does not seem like a viable option, particularly when he’s competing against Venezuelan imports that already run $5 to $6 a pound cheaper than what Bauer sells. Bauer says American buyers may be willing to pay more for locally produced seafood, but only up to a point. “We know. We’ve found that ceiling,” Bauer says. “Any increase in cost... and I’m going to lose market. It serves no one any good to produce crab meat that’s too expensive to sell.”

While stories like Bauer’s are already troubling, there are signs that without some sort of H-2B reform, the situation facing processors could only worsen. Part of this is due simply to the improving options available to U.S.-born workers. This spring, unemployment in the country hit a 17-year low, falling to just 3.9 percent in May 2018. And in March of this year, initial unemployment claims—a proxy for the number

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**FIGURE 10: TOP 10 OCCUPATIONS OF REQUESTED H-2B WORKERS, FIRST HALF OF FY 2018**

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Landscaping and Groundskeeping Workers</td>
<td>63,208</td>
<td>53.6%</td>
</tr>
<tr>
<td>Maids and Housekeepers</td>
<td>7,227</td>
<td>6.1%</td>
</tr>
<tr>
<td>Amusement and Recreation Attendants</td>
<td>6,546</td>
<td>5.5%</td>
</tr>
<tr>
<td>Forest and Conservation Workers</td>
<td>5,608</td>
<td>4.8%</td>
</tr>
<tr>
<td>Meat, Poultry, and Fish Cutters</td>
<td>4,277</td>
<td>3.6%</td>
</tr>
<tr>
<td>Construction Laborers</td>
<td>3,097</td>
<td>2.6%</td>
</tr>
<tr>
<td>Laborers, Freight, Stock, and Material Movers</td>
<td>1,777</td>
<td>1.5%</td>
</tr>
<tr>
<td>Counter Attendants in Cafeterias and Food Concession</td>
<td>1,653</td>
<td>1.4%</td>
</tr>
<tr>
<td>Nonfarm Animal Caretakers</td>
<td>1,647</td>
<td>1.4%</td>
</tr>
<tr>
<td>Cooks</td>
<td>1,443</td>
<td>1.2%</td>
</tr>
</tbody>
</table>

*Source: Office of Foreign Labor Certification, Department of Labor.*
of Americans laid off at a given time—reached their lowest levels since 1969. In an environment where workers in many parts of the country can take their pick of jobs, temporary, seasonal positions on the “slime line,” as seafood processing facility positions are sometimes known, rank relatively low on many jobseekers’ wish lists.

Indeed, federal data also shows that even before the recent contraction in the effective number of H-2B visas available, the seafood processing industry was already facing dramatic labor shortages. Between 2000 and 2016, the number of people employed in the seafood product preparation and packaging industry actually declined by 23.5 percent, according to data from the Bureau of Labor Statistics (BLS). At the same time, real wages rose dramatically, jumping almost 20 percent. (See Figure 11.) Those trends together often indicate that employers are competing for a limited—and insufficient—supply of workers. Had the demand for workers in fish processing gone down—perhaps, say, due to fish processors opting to take on less labor-intensive products—we would not expect to see such a dramatic wage gains.

The unique nature of the challenges facing the seafood processing industry is also captured when we compare its recent wage trends to what has occurred in other, similar fields. To examine this issue, we turn to the Quarterly Census on Employment and Wages (QCEW), a survey conducted by BLS. That data source allows us to narrow down the data to examine wage patterns only for the seafood production sector—which includes both the frontline processing workers that are the focus of this report, as well as those in areas like sales or human resources at seafood processing firms. Because of the nature of the work, the majority of seafood production workers—or about 79 percent—lack a bachelor’s degree. To compare the wage patterns of this industry to similar fields, we focus on a set of other industries—including animal slaughtering, food services, construction, and repair and maintenance, where workers have a similar educational profile and the bulk of those employed are in labor-intensive roles.

The wage trends suggest that of these fields, seafood production faces the greatest challenges in staffing. Between 2000 and 2016, a period when the real wages of seafood production workers rose by 19.8 percent, workers in animal slaughtering saw only 6.0 percent real wage growth. The real wages of those employed in the repair and maintenance field grew just 6.4 percent, while workers in personal and laundry services actually saw their real wages shrink. In fact, the only sector where wages grew in the double digits was construction—although they still saw roughly half the real wage growth of the seafood production industry. (See Figure 12.) This is consistent with recent reports that firms in places as varied as Houston and Amherst, Ohio have had to slow their construction starts due to challenges finding enough workers. One 2017 survey from the National Association of Homebuilders, found that 78 percent of builders cited the availability and cost of labor as a “significant issue,” up from just 13 percent in 2011.
The wage jump for seafood production workers also stands out when compared to the trend for workers with less than a bachelor’s degree in the country overall. One consistent narrative that has emerged from the recent economic recovery surrounds tepid wage growth: Although the economy has inched towards full employment, wage growth in many years has barely kept pace with inflation. Our analysis of ACS data bears this out. Between 2000 and 2016—a period when real wages in fish processing rose by almost 20 percent—the average worker without a BA saw a 4.1 percent decrease in wages. Although not a perfect apples-to-apples comparison since a small number of managers in fish processing are captured in the QCEW, the difference between the two groups shows the real challenges facing the seafood industry and why processors have struggled to scale up—or even maintain—their operations.

**Conclusion**

As this brief shows, the U.S. seafood processing industry is facing unprecedented challenges. Between 2000 and 2016, the share of seafood sold to Americans that was imported grew substantially. While U.S. seafood processors handled more than one out of every five pounds of seafood sold in America in 2000, by 2016 that figure had dropped to just 6.8 percent. The declining fortunes of the American seafood industry represents a worrying trend not just from a health and safety perspective, but for the broader economy overall. More than 150,000 U.S.-born workers hold jobs in the seafood processing sector and an additional almost 45,000 work in commercial fishing. As our report shows, recapturing even a small share of the domestic market would have implications not just for those workers, but the countless others whose jobs depend on the health of the country’s seafood economy. If U.S. seafood processors were able to supply just 13.6 percent of our country’s seafood, more than 11,000 jobs would be created for American workers. The country’s annual GDP would rise by $820 million per year as well.

Our work also shows the urgent need that exists today for H-2B reform. While Congress has taken important steps in recent budget bills to allow DHS to issue additional H-2B visas, granting them the option to do so—instead of mandating it—is obviously not enough. DHS has so far been slow to release additional visas, and also issued far fewer than employers need. Every day this reality chugs on is costing the American seafood industry, turning once-bustling seaside business corridors into virtual ghost towns.

In recent months, several potential solutions to the current issues have been discussed. A bill sponsored by Senators Thom Tillis (R-NC) and Angus King (I-ME) would enshrine the returning worker exemption that
so many seafood processors depend on into law, taking some of the uncertainty that has been so damaging to processors in recent years out of the equation. There have also reportedly been discussions between Maryland lawmakers and the Trump administration about finding a way to incorporate seafood processing workers into the H-2A program for agricultural laborers, a flawed program that nevertheless lacks a visa cap.

While the current presidential administration has expressed skepticism about immigration and the economic benefits it brings, it is clear that reforming the H-2B program could actually help the Trump administration meet some of its stated high-priority policy goals. The seafood industry is a prime example of an American sector struggling to hold its own against a flood of imports. Yet unlike steel and aluminum—areas that the Trump administration has targeted in a bid to reduce our country’s trade imbalance—many in the seafood industry say reducing our reliance on foreign seafood would be wholly possible if processors had enough workers to operate at full capacity. Targeted immigration reform, which still safeguards American workers, could chip away at imported seafood’s dominance of our domestic market. It would also be a particularly attractive part of our trade imbalance to target because it would not require imposing the sort of stringent tariffs that anger and isolate international allies.

Helping the seafood processing sector would also be incredibly beneficial to a subset of workers that have long been a focus of the Trump administration: The “little guy,” or Americans, often lacking a college education, who feel left behind by recent economic gains. This population makes up a large share of the commercial fishing industry, where more than four out of every five U.S.-born workers lack a college degree. In small coastal towns, they also run the mom and pop stores and service businesses that take a hit when the seafood industry falters. Providing seafood processing facilities with an adequate workforce would, in many ways, put these Americans first and reinvigorate the opportunities available to them.

Endnotes


22 Fisheries.


26 Interview with Bob Jones, Executive Director, Southeastern Fisheries Association, March 13, 2017.

27 This $9.6 billion figure is based on the value of seafood processed by U.S. facilities in recent years. See: David Van Voorhees, “Fisheries of the United States 2016.”


30 While seafood processing cannot be isolated due to limitations in the data, this is one of the best indicators to examine the workforce in seafood processing industry. This category excludes the majority of food processing sectors such as grain, fruit, vegetable, meat, poultry, and dairy products.


32 Based on an NAE analysis of the American Community Survey, 2015, 1-year-sample.

33 More detail of the model used and how we arrive at all the estimates in this section can be found in the methodology appendix of this report.


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39 Scott Calvert, “Maryland’s Crab Country: Not Enough Visas, Not Enough Workers.”

40 Scott Calvert.


45 Steve Clark, “Season Starts with Shrimp Boats Lacking Workers.”

46 Jeanine Stewart, “Bristol Bay Processors Lose Millions on Dramatic Labor Shortage.”

47 Jeanine Stewart.

48 Laura Meckler, “Businesses Beg for More Low-Skill Visas, Putting White House in a Bind.”


50 Ibid.


55 All data on employment and wages in this section comes from NAE’s analysis of the Quarterly Census of Employment and Wages from the Bureau of Labor Statistics. All figures are adjusted to reflect 2016 dollars.


57 Please note that because of the way the QCEW defines “seafood product preparation and packaging” our figures here capture some workers in managerial positions. However, the vast majority are production workers, a group that by and large lacks a college education.
