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Economic Impact of the Closure of Naval Surface Warfare Center, Corona



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Economic Impact of the Closure of Naval Surface Warfare Center, Corona

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**Economic Impact of the Closure of
Naval Surface Warfare Center, Corona**

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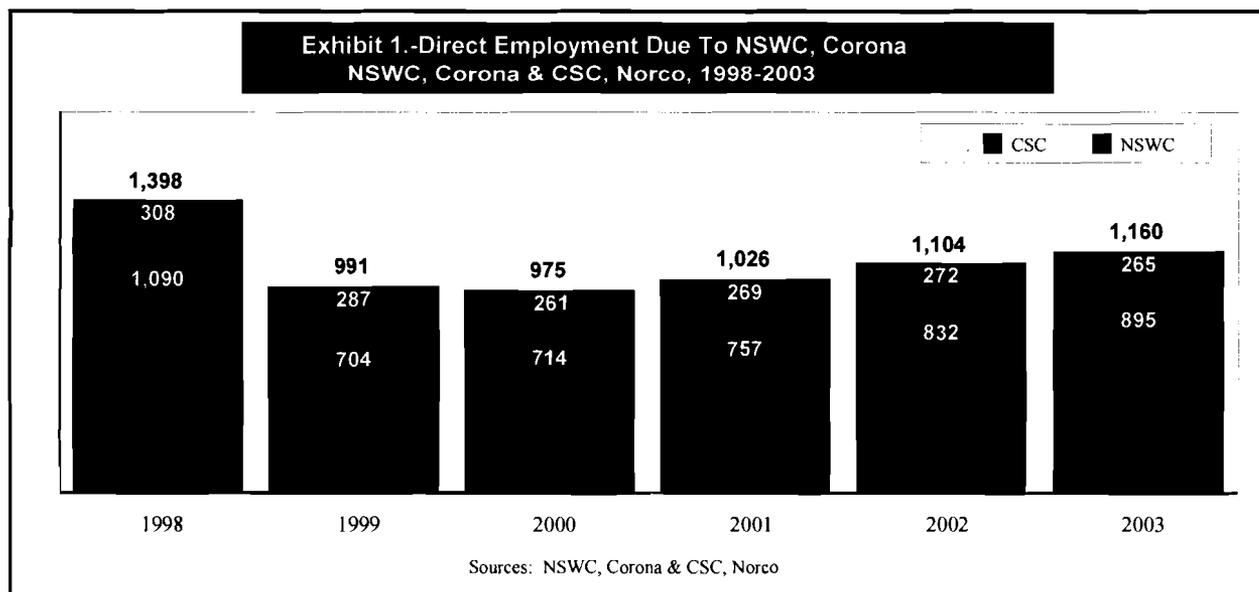
By John E. Husing, Ph.D.

Like any DOD operation, the Naval Surface Warfare Center (*NSWC*), Corona has an important impact on the economy of the area in which it is located. The impact of closing the facility can be measured in two ways. One is the qualitative impact of losing high paying technical jobs in a region that is increasingly being populated by well-educated professionals, technicians and executives, many of whom are forced to commute long distances to their jobs. The other is the quantitative impact of losing 3,288 jobs and \$308.3 million in economy activity. Such a decline would be on top of the \$3.1 billion in economic activity already taken from the Riverside-San Bernardino Metropolitan Statistical Area (*Riverside SMA*) during earlier base closures. These qualitative and quantitative issues are discussed below, in detail.

Loss of Direct Jobs & Payroll. The direct economic influence of NSWC, Corona is most strongly felt in the Corona-Norco area of the Riverside SMA in California. This is an area undergoing extraordinarily rapid population growth due to the lack of land in Southern California's coastal counties (*Los Angeles, Orange, San Diego*). The impact comes from two sources:

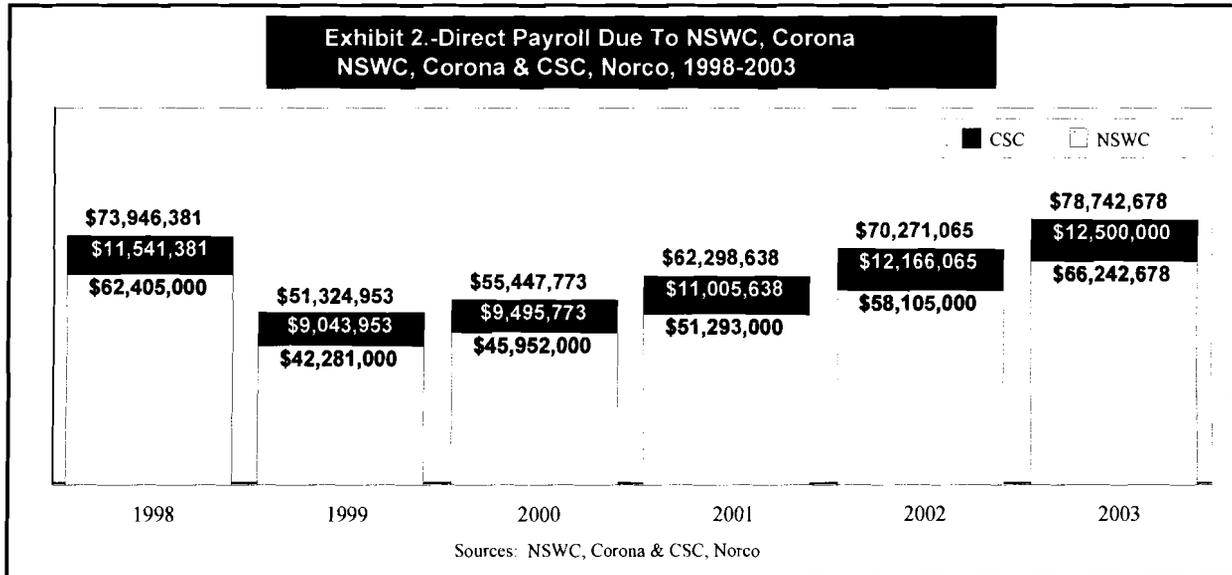
- **The number of jobs associated with NSWC, Corona and its affiliated civilian contractor Computer Science Corporation (CSC), Norco.**

In 2003, NSWC, Corona employed 895 people while CSC had another 265. That was a total staff of 1,160. This is down from the 1,398 used in 1998, but represented a slow increase in staffing from the low of 975 in 2000. The expansion has occurred as the number of systems evaluated by the operation has gradually grown. The loss of the NSWC, Corona operation would withdraw these 1,160 jobs from the Corona-Norco area economy (*Exhibit 1*).

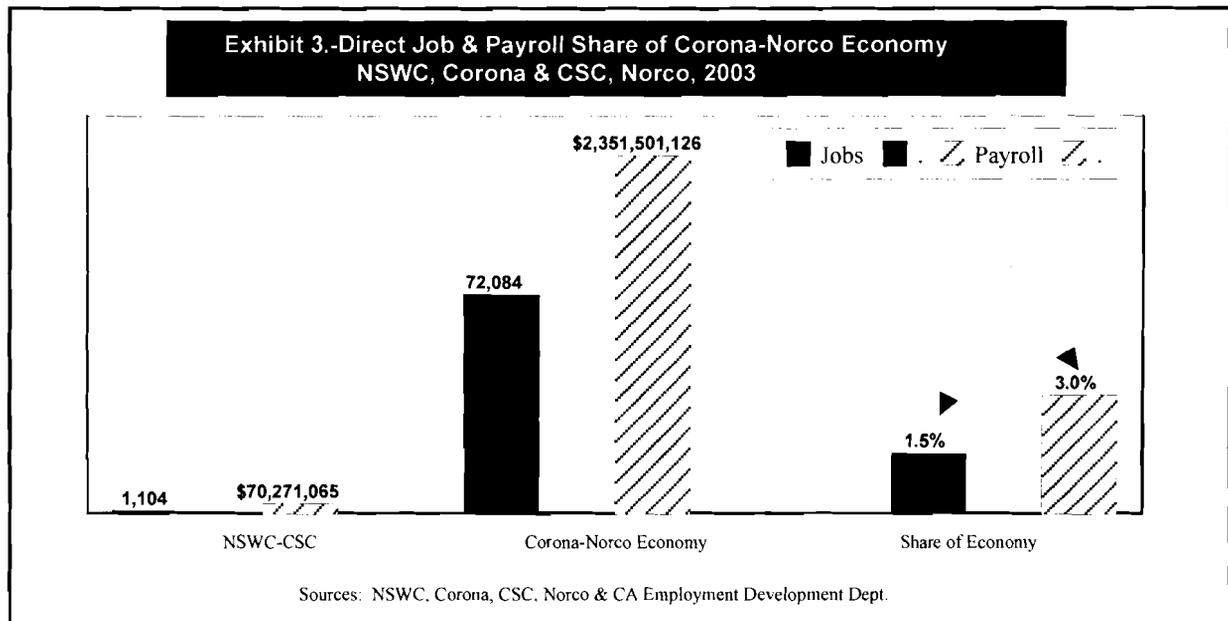


- **The dollars flowing through NSWC, Corona and CSC, Norco into the local economy.**

In 2003, NSWC, Corona had a payroll of \$66.2 million, while CSC had a payroll of \$12.5 million. That was a total payroll of \$78.7 million. The combined payroll was up 6.5% from the \$73.3 million spent in 1998. However, this was well below Southern California's 1998-2003 inflation rate of 15.2%. The 2003 payroll was up from the \$51.3 million that existed at the low in 1999. Again, this gain was due to the expansion in the number of systems evaluated by the operation. The loss of the full NSWC, Corona operation would withdraw this \$78.7 million payroll from the Corona-Norco area economy (*Exhibit 2*).



To put these 2003 data into context, the employment loss would represent a 1.5% decline in the number of jobs in the Corona-Norco area economy. The payroll loss would represent a 3.0% decline in the payroll being introduced into the area by its firms and agencies (*Exhibit 3*).

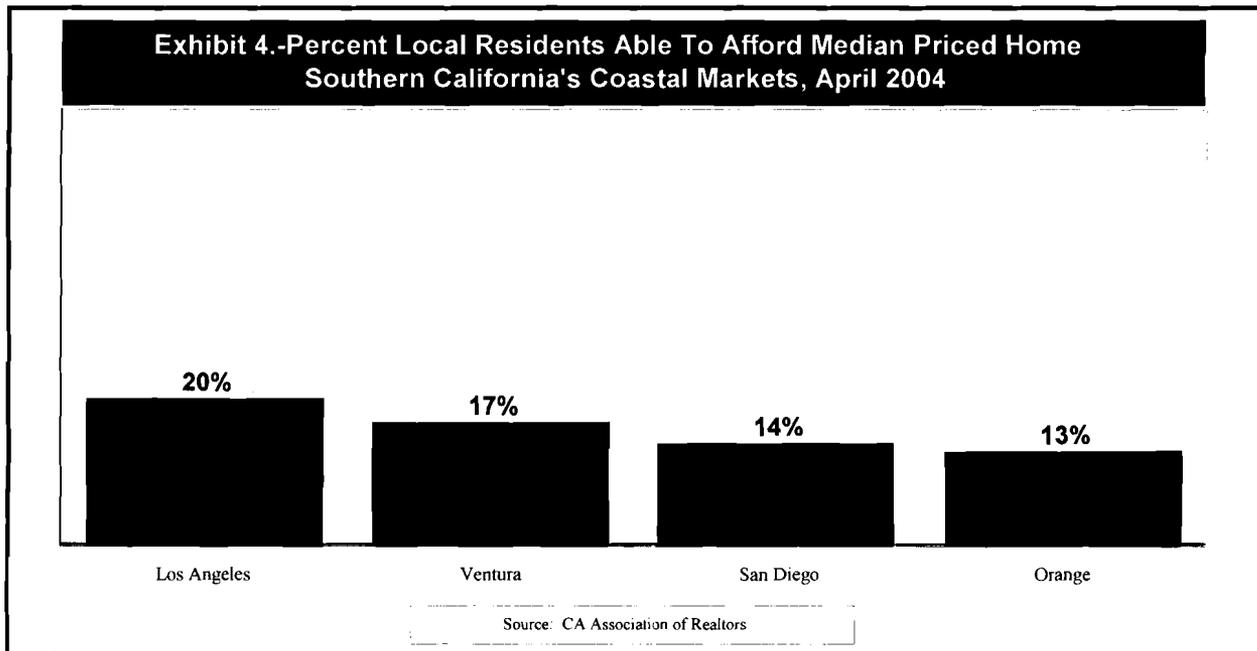


Of course, the job and payroll losses are not the full economic loss to the area. The reason being that the combined NSWV, Corona-CSC operations also spend non-payroll dollars buying supplies and utilities from local vendors plus using local non-professional and professional service providers (*see analysis below*).

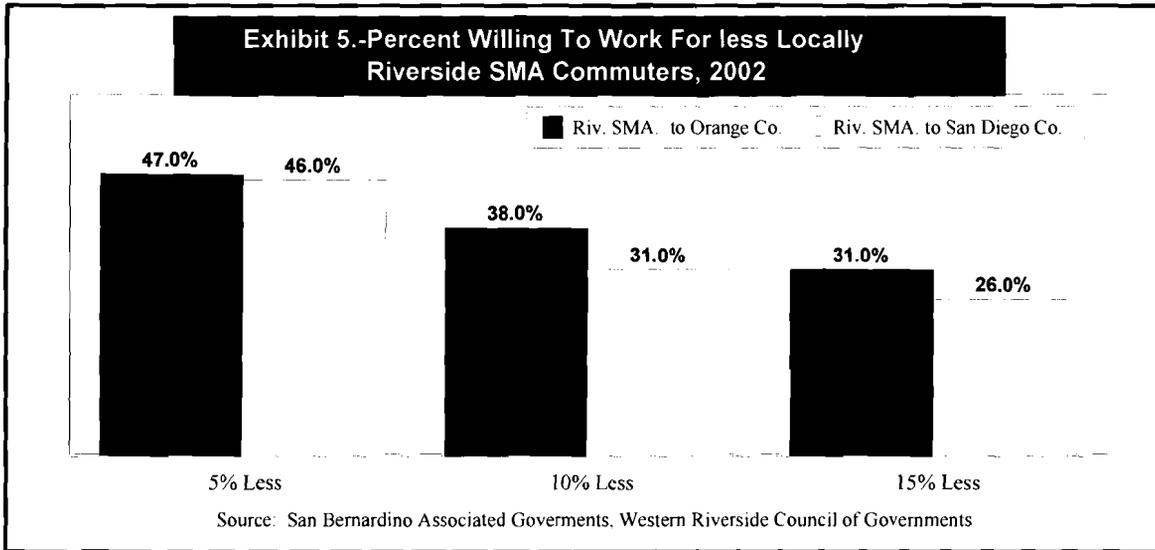
Impact of Losing High Paying Jobs. For the Corona-Norco area, the potential loss of jobs at NSWV, Corona-CSC, Norco could not come at a worse time. Since 2000, the Riverside SMA has seen thousands of well-educated technicians, programmers, professionals and executives migrate to its accelerating stock of new high-end neighborhoods. They are doing so because the lack of undeveloped land in Los Angeles, Orange and San Diego counties has caused their housing prices to reach extraordinary heights. This is evident from California (CA) Association of Realtors data showing that (*Exhibit 4*):

- Just 13% of Orange County's families could afford their county's median priced new or existing home despite having median incomes of \$74,200.
- Just 14% of San Diego County's families could afford its median priced home despite a median income of \$63,400.
- Just 20% of Los Angeles County's families could afford its median priced home despite a median income of \$53,500.

As the area closest to wealthy Orange County, this has given the Corona-Norco a growing base of highly skilled workers who no longer want to make the long commute to their former jobs.

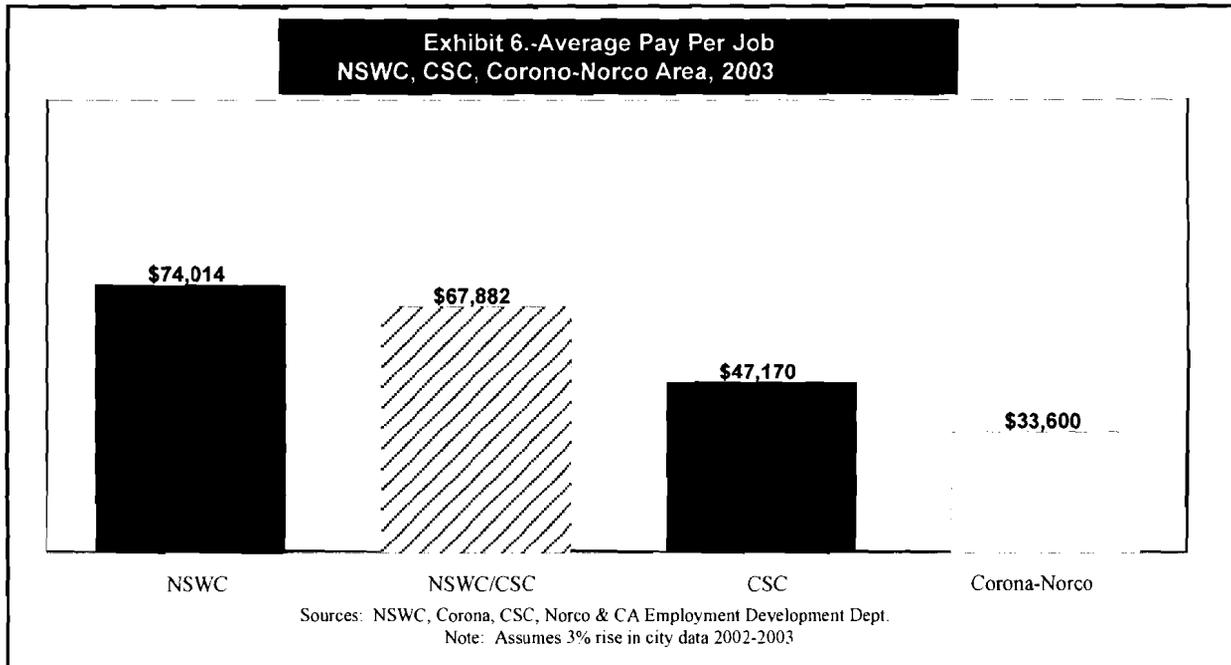


Surveys show that they will work for less in the local area to avoid the lost time, energy and harassment spent in their cars. For instance, 31% of those commuting from the Riverside SMA to Orange County would sacrifice 15% of their income for a local job. At the same time, 26% of commuters to San Diego County would make the same sacrifice. These data include a large number of workers in Corona and Norco, two communities in which this new breed of highly educated workers is congregating (*Exhibit 5*).



This situation has made it imperative for the Corona-Norco area and the Riverside SMA to undertake economic development strategies to bring high-end jobs to the region. To do so, the area must show the executives and entrepreneurs running firms located elsewhere that there are technology operations that have succeeded by using locally-based knowledge workers. One of the most outstanding example of this fact is NSWC, Corona. Its importance is seen in that the 2003 average annual pay for its combined entities was \$67,882 in 2003, with workers at the larger NSWC, Corona operation averaging \$74,014 and those at CSC averaging of \$47,170. This compared to an average pay level of just \$33,600 for the Corona-Norco area as a whole.

It would be devastating to the Corona-Norco and Riverside SMA's economic development strategy to lose the NSWC, Corona operation at such a crucial time.



Total Local Impact of NSWC, Corona. To measure the full impact of the loss of the NSWC, Corona operation on the Corona-Norco and Riverside SMA areas, the operation is best thought of as a large high tech company that brings *outside* money to the region through its spending on local employees, suppliers and service providers. The people and firms initially receiving the money represent the “primary” tier of the operation’s economic impact. But as they spend the same dollars supporting themselves, a “secondary” tier of non-defense related sectors is also supported. The acceleration in activity in the combined “primary” and “secondary” tiers of the economy represents the economic effect that the operation is having on the region.

U.S. Navy Used \$2.00 To Show Full Economic Impact. Here, an analogy can be made to the fact that the U.S. Navy once paid its sailors in \$2.00 bills just before they hit a port. These payments represented the “primary” tier of economy as they supported the sailors. As these men and women spent their funds in the harbor, the \$2.00 bills might first show up in entertainment venues. When these groups paid their employers or bought supplies, the \$2.00 bills would start reaching other “secondary tier” operations such as food stores, clothing stores, or accountants. These “secondary” tier firms might never see a sailor. The flow of \$2.00 thus showed the port community how important the U.S. Navy was to their entire economy.

Calculating Full Economic Impact. Short of using \$2.00, the full impact of U.S. Navy on the Corona-Norco and Riverside SMA areas must be measured by modeling the way in which the budget of NSWC, Corona and CSC, Norco affect the area’s economy. The starting point is the 2003 payroll spending of the two operations:

- **\$78,742,678** total “primary” tier payroll to **1,160** “primary” tier local employees

Primary Tier. This is the “primary” tier of economic and employment impact since the funds come from outside the local area and support local families. As indicated, the two operations paid their labor force a weighted average payroll per worker of \$67,882.

Secondary Tier: The Start. When the families receiving this money spend it, they start the cycle by which the secondary tier of the economy is affected. However, though the workers received \$78.7 million, not all of these funds affect the secondary tier of the local economy:

- Some funds are saved
- Some monies are spent outside of the local economy

To estimate these two deductions, data showing the use of funds by the “average” Los Angeles area family are used (*Exhibit 7*). This information was prepared by the U.S. Bureau of Labor Statistics as part of its work in estimating the U.S. and local Consumer Price Indexes. The exhibit shows :

- The share of a typical family’s budget estimated to go to each category of income use.
- Using a budget of \$78.7 million, it shows how much spending would go to each sector.
- Estimates are then made of what share of spending for each use would likely go to outlets in the Riverside SMA. This allows estimates of the local spending going to each sector.
- Based upon these calculations, it is estimated that **\$48,308,762** of the \$78.7 million (*61.4%*) would actually reach the secondary tier of the Riverside SMA’s economy.
- Note, for instance that none of the \$10.8 million in savings, federal and state taxes, or \$5.9 million in social security or other pension payments are assumed to reach the local economy.

Exhibit 7.-Estimated Use of NSW-CSC Payroll, 2003

Sector	Percent	Use of Funds	Riverside SMA	Local Spending
Food at Home	6.4%	\$5,017,621	100%	\$5,017,621
Food Out	4.6%	3,612,687	95%	3,432,052
Alcohol	0.8%	632,992	100%	632,992
Home Mortgage Interest	8.9%	6,997,265	15%	1,049,590
Home Property Tax	1.2%	932,969	100%	932,969
Home Maintenance & Repairs	1.8%	1,399,453	100%	1,399,453
Rented Dwellings	5.9%	4,648,633	75%	3,486,474
Other Dwellings	1.1%	870,750	100%	870,750
Utilities	4.9%	3,865,884	100%	3,865,884
Household Services	1.5%	1,182,615	100%	1,182,615
Household Supplies	1.0%	810,539	100%	810,539
Furniture & Fixtures	3.4%	2,681,725	90%	2,413,553
Apparel	3.5%	2,757,376	80%	2,205,900
Vehicle Purchases	7.5%	5,879,107	95%	5,585,152
Gas & Oil	2.7%	2,108,945	95%	2,003,497
Vehicle Insurance	2.0%	1,549,765	15%	232,465
Vehicle Maintenance/Repair/Other	3.4%	2,638,790	100%	2,638,790
Public Transportation	0.9%	722,537	100%	722,537
Health Insurance	3.0%	2,400,275	25%	600,069
Medical Service	0.9%	685,793	100%	685,793
Drugs & Medical Supplies	0.4%	342,896	100%	342,896
Entertainment	4.6%	3,611,143	75%	2,708,357
Personal Care Products	1.1%	841,416	100%	841,416
Reading	0.3%	247,021	100%	247,021
Education	1.7%	1,349,354	80%	1,079,483
Tobacco	0.5%	367,444	100%	367,444
Miscellaneous	1.7%	1,341,635	100%	1,341,635
Contributions	2.6%	2,044,101	75%	1,533,076
Life & Other Personal Insurance	0.7%	524,920	15%	78,738
Pensions & Social Security	7.5%	5,868,300	0%	0
Taxes & Savings	13.7%	10,808,727	0%	0
LOCAL SPENDING	100.0%	\$78,742,678	61.4%	\$48,308,762

Source: U.S. Bureau of Labor Statistics, 2002

Secondary Tier: Additional Rounds of Spending. However, this spending only starts the secondary impact of the NSW, Corona operation's 2003 payroll. This amount is analogous to the first round of \$2.00 bill spending by the sailors. Each of the local entities receiving payments, in turn, has its own spending on payroll plus supplies and services.

Once dollars reach a regional economy, economists have conducted a great deal of research estimating the full "secondary" impact they have as they change hands locally. To facilitate research, the U.S. Department of Commerce publishes "multipliers" showing, sector by sector, how many times \$1.00 dollar reaching that sector turns over before it has entirely drifted away. Their work is called the Regional Input-Output Modeling System (*RIMS II*). Data are available for the Riverside SMA (*Exhibit 8*):

- For each sector, RIMS II shows the number of times \$1.00 reaching the local economy will turnover creating new economic output. For instance, each \$1.00 spent on "food at home" will change hands a total of 1.7364 times before being lost to the local economy.
- For each sector, RIMS II also shows the multiple by which \$1.00 reaching the local economy will increase the area's household incomes. For "food at home," that is 0.5335.

- Multiplying these factors by the spending in each sector yields the increase in output and household income it will cause. In the case of “food at home,” that is estimated at \$8,712,596 in additional output plus \$2,676,901 in additional household income for a total “secondary” economic impact of \$11,389,497.
- Altogether, the \$48.3 million in local spending by NSWC, Corona related workers would thus simulate **\$106,925,088** in “secondary” activity in the Riverside SMA.

Exhibit 8.-Multiplier Impacts, By Sector, Spending From NSWC-CSC Payroll, 2003								
Sector	Local Spending	Multipliers			Output	Earnings	Economic Impact	Jobs
		Output	Earnings	Jobs				
Food at Home	\$5,017,621	1.7364	0.5335	24.8346	\$8,712,596	\$2,676,901	\$11,389,497	125
Food Out	3,432,052	1.8305	0.503	30.9463	\$6,282,372	\$1,726,322	\$8,008,694	106
Alcohol	632,992	1.7364	0.5335	24.8346	\$1,099,128	\$337,701	\$1,436,829	16
Home Mortgage Interest	1,049,590	1.5905	0.3731	11.1222	\$1,669,372	\$391,602	\$2,060,974	12
Home Property Tax	932,969	1.9772	0.4873	13.6505	\$1,844,666	\$454,636	\$2,299,301	13
Home Maintenance & Repairs	1,399,453	1.7483	0.6657	38.6805	\$2,446,664	\$931,616	\$3,378,280	54
Rented Dwellings	3,486,474	1.484	0.2026	8.5719	\$5,173,928	\$706,360	\$5,880,288	30
Other Dwellings	870,750	1.8313	0.4319	22.0745	\$1,594,605	\$376,077	\$1,970,682	19
Utilities	3,865,884	1.5258	0.2717	6.2602	\$5,898,565	\$1,050,361	\$6,948,926	24
Household Services	1,182,615	1.8548	0.6013	33.5544	\$2,193,514	\$711,106	\$2,904,620	40
Household Supplies	810,539	1.7364	0.5335	24.8346	\$1,407,419	\$432,422	\$1,839,842	20
Furniture & Fixtures	2,413,553	1.7364	0.5335	24.8346	\$4,190,893	\$1,287,630	\$5,478,523	60
Apparel	2,205,900	1.7364	0.5335	24.8346	\$3,830,325	\$1,176,848	\$5,007,173	55
Vehicle Purchases	5,585,152	1.7364	0.5335	24.8346	\$9,698,058	\$2,979,679	\$12,677,737	139
Gas & Oil	2,003,497	1.7364	0.5335	24.8346	\$3,478,873	\$1,068,866	\$4,547,739	50
Vehicle Insurance	232,465	1.9181	0.5884	16.2867	\$445,891	\$136,782	\$582,673	4
Vehicle Maintenance/Repair/Other	2,638,790	1.7806	0.4859	18.4817	\$4,698,629	\$1,282,188	\$5,980,817	49
Public Transportation	722,537	1.7074	0.5376	23.5868	\$1,233,660	\$388,436	\$1,622,096	17
Health Insurance	600,069	1.9181	0.5884	16.2867	\$1,150,992	\$353,080	\$1,504,073	10
Medical Service	685,793	1.8985	0.7084	20.7975	\$1,301,978	\$485,816	\$1,787,794	14
Drugs & Medical Supplies	342,896	1.7364	0.5335	24.8346	\$595,405	\$182,935	\$778,341	9
Entertainment	2,708,357	1.7364	0.5335	24.8346	\$4,702,791	\$1,444,909	\$6,147,700	67
Personal Care Products	841,416	1.7364	0.5335	24.8346	\$1,461,035	\$448,896	\$1,909,931	21
Reading	247,021	1.7364	0.5335	24.8346	\$428,928	\$131,786	\$560,714	6
Education	1,079,483	1.6922	0.4499	26.5128	\$1,826,701	\$485,659	\$2,312,361	29
Tobacco	367,444	1.7364	0.5335	24.8346	\$638,030	\$196,031	\$834,062	9
Miscellaneous	1,341,635	1.7364	0.5335	24.8346	\$2,329,614	\$715,762	\$3,045,376	33
Contributions	1,533,076	1.9066	0.5934	25.4127	\$2,922,963	\$909,727	\$3,832,690	39
Life & Other Personal Insurance	78,738	1.9181	0.5884	16.2867	\$151,027	\$46,329	\$197,357	1
Pensions & Social Security	0	NA	NA	NA	\$0	\$0	\$0	0
Taxes & Savings	0	NA	NA	NA	\$0	\$0	\$0	0
LOCAL SPENDING	\$48,308,762				\$83,408,624	\$23,516,464	\$106,925,088	1,069

Source: U.S. Bureau of Labor Statistics, 2002 & RIMS II Riverside SMA 2002

- The RIM II data also show the number of “secondary” tier jobs that will be supported for each \$1 million spent in a sector. For “food at home,” it is 24.8346. Multiplying those factors by spending in a sector yields the number of “secondary” jobs that will be created. The total was 125 for “food at home.”
- The grand total of “secondary” jobs created by \$48.3 million by NSWC, Corona related workers was **1,069**.

Payroll spending is not the only way that the NSWC, Corona's operations affect the Corona-Norco and Riverside SMA economies. There is also a good deal of money spent on buying supplies and equipment plus professional and non-professional services. When these funds reach various sectors of the local economy, they also have multiplier impacts.

Exhibit 9.-Multiplier Impacts, By Sector, Spending From NSWC-CSC Payroll, 2003

Sector	Spending	Percent Local	Spending	Multipliers			Output	Earnings	Economic Impact	Jobs
				Output	Earn	Jobs				
Utilities	\$1,706,202	100.0%	\$1,706,202	1.5258	0.2717	6.2602	\$2,603,323	\$463,575	\$3,066,899	11
Professional Service	\$35,930,895	75.0%	\$26,948,171	1.8165	0.6573	19.0624	\$48,951,353	\$17,713,033	\$66,664,386	514
Non-Professional Service	\$2,203,685	100.0%	\$2,203,685	1.6316	0.4543	16.3278	\$3,595,532	\$1,001,134	\$4,596,666	36
Supplies	\$14,244,094	100.0%	\$14,244,094	1.7364	0.5335	24.8346	\$24,733,444	\$7,599,224	\$32,332,668	354
Equipment	\$1,655,571	75.0%	\$1,241,678	1.8154	0.4739	11.895	\$2,254,142	\$588,431	\$2,842,574	15
Other	\$18,232,505	25.0%	\$4,558,126	1.9197	0.7523	26.7722	\$8,750,235	\$3,429,078	\$12,179,314	122
Benefits	\$2,500,000	15.0%	\$375,000	1.8355	0.6489	22.0244	\$688,313	\$243,338	\$931,650	8
TOTAL	\$76,472,952	67.1%	\$51,276,956				\$91,576,343	\$31,037,813	\$122,614,156	1,059

Source: U.S. Bureau of Labor Statistics, 2002 & RIMS II Riverside SMA 2002

An analysis of the NSWC, Corona & CSC, Norco budgets shows that (*Exhibit 9*):

- Total spending on non-payroll items was \$76,472,952 in 2003. Of this 67.1% or \$51,276,956 was spent within the Riverside SMA. This money is the beginning of the “secondary” impact which these operations have on the Corona-Norco and Riverside SMA areas.
- RIMS II multipliers show the sector by sector effects of this spending on the Riverside SMA economy. For example, the \$1,706,202 spent on utilities results in 1.5258 times that in total “secondary” output in the area. It also causes 0.2717 of that amount in additional local household income. Together, these impacts result in an impact of \$2,603,323 in output plus \$463,575 in household earnings or a full “secondary” impact of \$3,066,899.
- In addition, each \$1 million spent in the utility sector has the “secondary” impact of creating 6.2602 jobs before the funds trickle away. The \$1,706,202 spent on utilities thus creates 11 additional jobs.
- Altogether, the \$76.7 million in non-payroll spending by the NSWC, Corona operations results in \$51.3 million reaching the local economy. That, it turn has a full “secondary” impact of \$122,614,156 in economic activity and adds 1,059 jobs.

Full Impact. The full impact of losing NSWC, Corona and CSC, Norco is the sum of the “primary” impact of their payrolls, plus the “secondary” impact of the payroll that is spent locally, plus the “secondary” impact of the local non-payroll spending by the two entities (*Exhibit 10*):

- **\$308.3 million in economic activity**
- **3,288 jobs**

Exhibit 10.-Total Economic Impact of NSWC Operations, 2003

Type of Impact	Economic Impact	Job Impact
Payroll Spending Directly Reaching Riverside SMA	\$78,742,678	1,160
Secondary Impact from Payroll Reaching Riverside SMA	\$106,925,088	1,069
Secondary Impact from non-Payroll Spending Reaching Riverside SMA	\$122,614,156	1,059
Total Impacts of NSWC, Corona & CSC, Norco	\$308,281,922	3,288

Though it is not part of the Base Reuse and Closure process this time, it still needs to be pointed out that the total BRAC process has had a huge impact on the Riverside SMA. Should NSWC, Corona be withdrawn from the area, its \$308.2 million in economic impact would be on top of the loss of \$3.1 billion in economic activity as a result of the closing of George (*\$602 million*) and Norton (*\$1.9 billion*) Air Force Bases and the downsizing of March Air Force Base (*\$500 million*) to reserve status. That is a huge economic hit for any one region of the United States to have to withstand.

