**Livelihoods & Economies**

Oceans jobs and revenue directly provide 18% to the economy of Hawaii. However there are many indirect economy benefits and markets. One could argue that the entire economy of Hawaii is based on the ocean. The attraction of visitors and tourism relies in part on a healthy ocean, along with 60% of local seafood consumed (*Teneva et al. in review*), recreation, and cultural activities.

Data on ocean livelihoods and economies comes from the NOAA ENOW for employment (jobs), wages, and revenue by ocean sector. Sectors include: Marine Construction, Living Resources, Ship and Boat Building, Tourism and Recreation, and Marine Transportation. Self-employed and state employed data sets were aggregated and summarized by county. However, when aggregated to county some of the information was undisclosed therefore this data represents a conservative estimate of ocean livelihoods and economies.

**Livelihoods**

Livelihoods was measured as the mean of ocean jobs and wages measured as the current number of jobs (*jc*) per marine and ocean sector (*k*) in relation to a reference year (*jr;* 5 years prior) and the sector average wage referenced to the self sufficiency standard (<http://files.hawaii.gov/dbedt/economic/reports/self-sufficiency/self-sufficiency_2014.pdf)> weighted by the proportion of jobs per sector (*w*). Current year (*c)* is the most recent year with available data (2013). Data on ocean sector employment and wage comes from NOAA ENOW (<https://coast.noaa.gov/digitalcoast/tools/enow.html>) and was adjusted by state unemployment rate (DBEDT).

|  |  |
| --- | --- |
| County | Self Sufficiency Standard |
| Hawaii | $24,435 |
| Maui Nui | $31,435 |
| Oahu | $31,675 |
| Kauai | $38,472 |

Other references for wage:

* DBEDT per capita median wage (~$48,000)
* DBEDT annual per capita average consumption expenditures by county (higher values >$60,000)

**Economies**

Where e is the total adjusted revenue generated directly and indirectly from each marine and ocean sector (*k*), at current (c), and reference (r), time points. Data on ocean revenue comes from NOAA ENOW (<https://coast.noaa.gov/digitalcoast/tools/enow.html>).

Table #. Industry multipliers for indirect jobs and revenue (DBEDT 2007, <http://files.hawaii.gov/dbedt/economic/reports/IO/2007_state_io_study.pdf)>. Sectors were assigned a value of 1.00 if industry multipliers were not available for the sector.

|  |  |  |
| --- | --- | --- |
| Ocean Sector | Jobs | Revenue |
| Tourism & Recreation | 1.27 | 1.32 |
| Living Resources | 1.76 | 1.58 |
| Marine Construction | 1.00 | 1.00 |
| Ship & Boat Building | 1.00 | 1.00 |
| Marine Transportation | 1.69 | 1.63 |