FISHING VESSEL OPERATIONAL ANALYSIS
Instructions

The **Fishing Vessel Operational Analysis** workbook allows you to model your fishing business and perform "what if" analyses.

- ▪ *Want to diversify into another fishery?* This tool allows you to add a new fishery to your existing operation and quickly see the financial impact on your bottom line.

- ▪ *Want to invest in higher value production in your existing fishery?* You can input the cost of equipment and your projected higher price and see if it really pencils out.

The entire workbook consists of eight worksheets. The **Main Sheet** is your final product. It is what accountants call a "pro-forma income statement". It is useful for your own planning purposes and for presentation to your bank if you are looking for loan financing.

The other seven sheets are where you actually enter your information in clearly identified **User Input Fields**, which are outlined in green. The data you enter is then automatically posted to the Main Sheet and to other worksheets as required. As you enter the data the model of your fishing operation is built "step by step" in the Main Sheet.

REVENUE WORKSHEET
Instructions

1. Start your data entry with the **Revenue** worksheet.

2. On the row titled **Fishery** enter the names of the various fisheries in which you participate. For example, if you troll for salmon and longline for halibut you can enter "Troll Salmon" and "Halibut Longline". These titles will be automatically entered on all the other sheets where required. If you want you can sub-divide your fishery. For example, you could have separate columns for "Winter Troll" and "Summer Troll". If you are a gillnetter in Bristol Bay you might want to break out early season "Kings" from the "Peak Season", and even add "Late Season Cohos".

3. You can customize quite a bit. If you need more than the standard three columns, use the **Crtl + i** function to add up to seven more, for a total of ten different fisheries or sub-divisions.

4. Next, enter the **Total Sea Days** you estimate you will expend in each fishery, and then the number of actual **Fishing Days**.

5. Now enter the values for **Average Catch Per Day** and **Average Unit Value**. You might be able to simply use general estimates here, but you will probably want to do

more detailed calculations. For that purpose, use the **Average Catch Value 'Scratch Pad'**. Separate "how to" instructions for that worksheet are found below.

Once you have completed these steps, you will have projected the gross revenue for each of your fisheries or fishery sub-divisions. Look at the **Main Sheet**. You'll see that all this information is entered in the correctly named columns.

Average Catch Value 'Scratch Pad'
Instructions

Computing average unit values can get to be extremely complicated. There are simply too many fisheries, and too many products and grades, to build a spreadsheet routine that will fit every fisherman's needs. Even a seemingly simple fishery like Bristol Bay sockeye can get pretty complicated if you start factoring in "chum percentages", chilling bonuses, shoulder season kings and cohos, and percentages of No.1 and No. 2 fish. However, this 'scratch pad' may help you.

We've set up a few calculation routines for you. You can use these "as is" or change the labeling to suit your needs. For example, in the "Basic Salmon" example, you can change the species names to grades of a specific species.

Values from the "scratch pad" must be entered manually in the Revenue worksheet. They do not get carried over automatically.

---

6. In the **Direct Expenses** section, now fill in the User Input Fields for **Gear**, and for **Bait & Ice**.

7. Next you can enter a percentage figure for **Miscellaneous Operating Expenses**. This is a "fudge factor" to cover all those smaller items that add up, but which you figure are not specifically accounted for. All of your other **Direct Expenses** will be multiplied by this percentage and the result will be posted to the **Main Sheet** and, like the other expenses, will be allocated to each fishery based on percentage of **Total Sea Days** each fishery represents.

CREW COST WORKSHEET
Instructions

Notice that a properly titled column has been opened for each fishery that you specified earlier on the **Revenue** sheet, so you can track crew costs by fishery.

1. First, let's establish how many crew you will have working for you by fishery. Scroll down to the **Crew Percentages** section. Complete the **User Input Fields** by entering the crew share percentage that you pay to each crewman that you employ in each fishery. You can add more lines for additional crew members by using the **Crtl + k** function. Up to ten crew members can be accounted for.

2. Now go back up to the **Crew Insurance (P&I)** box. Enter the total amount that you pay for the year in Protection & Indemnity and / or other liability insurance to protect your crew. This amount will be posted to the **Main Sheet** and allocated to each fishery based on percentage of **Total Sea Days** each fishery represents.

3. Now, move on to **Provision Costs**. On the line titled **Crew Members (Owner & Crew)** enter the total number of crew in each fishery plus 1 for yourself. Then enter your estimate of the daily cost to feed each person onboard in the **Cost / Man / Day** box. The number of **Sea Days** in each fishery will have been automatically been carried forward. The worksheet automatically calculates the overall, per fishery provisioning cost, and posts the figures to the **Main Sheet**.

Note: *The method described above deducts the cost of provisions from the gross revenue figure, giving a modified gross revenue figure against which crew shares are calculated. This means that you are sharing the cost with your crew. However, it is now common in many fishing operations for the crew to pay 100% of their provisioning cost. If that is how you handle crew provisions, then enter "0" in the* **Cost / Man / Day** *box*.

4. Now go to the **Crew Share Calculation**. Enter either "y" or "n" in each **User Input Field**. A "y" answer will cause that cost to be deducted from the Gross Revenue to produce a **Modified Gross Revenue** figure. **Crew Percentage**s is applied to this figure, and the results are then posted to the **Main Sheet**.

<div align="center">

FUEL & LUBE WORKSHEET
Instructions

</div>

This work sheet allows you to estimate the daily cost of fuel in each of your fisheries. Even though your engine configuration remains the same, in some fisheries you will run harder, or work longer hours per day than in others. Or, you may be using your large genset to drive a refrigeration system in one fishery, and not be running it at all in another. So, this worksheet allows you to be a little more accurate when figuring the costs of fuel, lubricants and other like consumables in each of your fisheries.

First, enter the cost **Fuel Cost Per Gallon** in the **User Input Field** at the top of the sheet. Then, right below that, enter your estimate of **Lube and Hydraulic as a % of Fuel**. 5% is a pretty good rule of thumb for lubricating oil, hydraulic fluid and similar consumable items, but you should vary that number according to your own experience.

Now enter your estimated daily fuel consumption for the main engine. You can use the Fuel Consumption Calculator for a more detailed analysis. Complete this exercise for your auxiliary engines, if any.

The **Total Fuel Consumption** for all engines will be automatically be calculated and multiplied by the **Fuel Cost per Gallon** figure that you have already entered. This figure will then be multiplied by the **Lube & Hydraulic as % of Fuel** figure you selected. The

results are shown separately and combined. The combined figure is automatically carried to the **Main Sheet** under each named **Fishery**.

The **Fuel Consumption Rate Calculator** is a useful tool for estimating consumption rates. It employs standard multipliers for fuel consumption per horsepower per hour for both 4-stroke and 2-stroke diesel engines. The actual number for your engine may vary, but these are pretty typical multipliers. 2-strokes are generally somewhat less efficient that 4-strokes. The load factor signifies how hard you are running the engine. If you are running at full rated horsepower, that is a 100% load factor. If you are idling a lot, and dialing back your revs to save fuel then the average load factor will be a lot less. You'll have to estimate. A reasonably conservative load factor estimate for auxiliary engines is 80%. [If you know the kW of your genset, but not the motor horsepower, figure 1.33 horsepower per kW. That is, to generate 12 kW requires about 16 hp.]

You can also use the **Fuel Consumption Rate Calculator** to get a quick estimate of how much fuel you might save by switching from a 2-stroke to a 4-stroke of the same horsepower, by re-powering with a less powerful engine, or by dialing back the load you put on your engine.

<div align="center">

PERMIT & IFQ COSTS WORKSHEET
Instructions

</div>

This sheet consolidates all of the costs associated with your existing permits and IFQs, and allows you to estimate costs on permits or IFQs you are thinking about buying.

The Permit & IFQ Loan section totals your outstanding permit and IFQ loan costs. Remember, as with the previous sheets, these figures are for the <u>annual</u> cost of these loans, not the original amount or the amount still owing. You can use the built-in **Loan Calculator** to estimate cost of existing loans, or new loans you may be taking out.

The total is carried to the Main Sheet under Fixed Costs, on the Permit & IFQ Costs line and allocated to the appropriate **Fishery**.

The **Renewals, Assessments & Fisheries Taxes** section tracks the other costs associated with your permits or IFQs, or other special permit fees associated with a particular fishery. Just about all fishermen have to deal with a variety of taxes and assessments that are specific to their fishing operations. We have included the five most common ones for Alaska fishermen, and three blank User Input Fields for others. Alaska fishermen in many areas pay **Salmon Enhancement Taxes** to support hatcheries in their region. Fishermen who direct market their catch are responsible for paying the **State Fisheries Business Tax**, which varies from 1% to 5% depending on species and type of operation. For most fish it is 3% of the landed value. **RFDA Assessments** are something new. These are assessments to pay for Regional Fisheries Development Associations. So far (as of Fall, 2006) RFDAs have been formed only in the Copper River and Bristol Bay fisheries. However, others are in the works. **IFQ Assessments** apply to the federally managed Individual Fisheries Quota programs for halibut and sablefish. They help pay

the management cost of these programs. They are authorized for up to 3% of the landed value, but so far are only at a fraction of 1 percent. The "Other" lines allow you to name specific permits that you may be required to have, such as a DEC processing permit, or direct marketer permit. Or, you may be subject to local landings axes on fish that some Alaska boroughs and towns assess.

Note: *If you have a fishery sub-divided into seasons under the same permit, you can either enter all costs for that fishery in one column, or split the cost to the separate seasons in proportions you choose.*

VESSEL & EQUIPMENT COSTS WORKSHEET
Instructions

This worksheet is set up to help you calculate a number of values relating to the cost or value of your vessel and related machinery or improvements.

1. Start by entering the estimated current value of vessel and equipment in the **Vessel & Equipment Current Value** User Input field. This can be for your existing boat, or, if you are thinking of buying a different vessel, it can be the estimated value of that boat.

2. A good way to think about regular maintenance costs on your vessel and equipment is as a percentage of the value. Enter your estimate in the **Annual Vessel Maintenance** input field. The amount is calculated and shown below, and is also automatically entered in the **Main Sheet**. Remember, this is actual, recurrent maintenance costs like bottom painting, zincs, and so forth…not depreciation. This is a good budgetary exercise, because too many fishermen really don't think ahead about maintenance.

3. **Vessel Insurance (Hull & Machinery)** is almost always calculated as a percentage of value, so enter the appropriate percentage in this input field. The amount is calculated and shown below, and is also automatically enter in the **Main Sheet**.

Now we'll move to calculating the debt you are carrying on your vessel…or will be carrying if you are buying a new vessel.

4. The **Vessel and Equipment Debt Payments Summary** will help you tote up all annual costs of payments on the debt instruments you may have. It is not uncommon for fishermen to be carrying numerous notes relating to their operation. If you know the annual value of all your different vessel and equipment related loans, go ahead and enter them in the appropriate User Input Field. You can use the built-in **Loan Calculator** to estimate cost of existing loans, or new loans you may be taking out. Four of the most common types of loans are included [**1st and 2nd Vessel Mortgages**, State of Alaska Product **Quality Improvement Loan**, and **Gear Loan**], and space is provided to include others as needed. Remember, these figures are for the annual cost of these loans, not the original amount or the amount still owing. The total is carried to the Main Sheet under Fixed Costs, on the Vessel & Equipment Payments line, and is allocated to each fishery based on the percentage each represents of total operating days.

MISCELLANEOUS FIXED COSTS WORKSHEET
Instructions

This is a simple worksheet that allows you to compile two sorts of costs that most fishing operations encounter.

1.) The standard **Port and Harbor Costs** are, of course, the moorage you pay for your vessel at your homeport. If you move around in your fishing operation, you will quite likely encounter transient moorage costs at other harbors. Other harbor fees could include things like crane use fees, electricity, etc. If you want to list these or other charges specifically, we have provided extra User Input Fields for this purpose that you can label accordingly. As with other data, the sum of this field is automatically entered in the **Main Sheet.**

2.) Fishermen also make use of accountants, lawyers and other professionals. **Professional Fees** provides User Input Fields for these categories, and three blanks for you to name and use according to you needs. Again, the sum of this field is automatically entered in the Main Sheet.

3.) Some Alaska boroughs and towns assess **Local Property Tax** on the value of fishing assets, like boats, if a fisherman is a resident, or leaves the boat in the jurisdiction for a specified period.

PRINTING YOUR WORKSHEETS

Print Instructions Here