

False Killer Whale Take Reduction Team  
 Predictive Model Input Specification  
 --- D R A F T 14 June 2010 ---

Simulation Name \_\_\_\_\_ Date \_\_\_\_\_ Sim # \_\_\_\_\_

Sample by sets, simulate results for a **single year** (full 2003-2009 data set)

*Simulated fishing parameters*

| <b>Variable</b>  | <b>Deep-Set Fishery (DS)</b> | <b>Shallow-Set Fishery (SS)</b> |
|--|------------------------------|---------------------------------|
| # Sets per Year  |                              |                                 |
| Area restrictions? (e.g. EEZ, lat / long, quadrants, area polygon) |                              |                                 |
| Seasonal restrictions? (e.g., monthly, quarterly)                  |                              |                                 |
| Depredation rate reduction (% of current)                          |                              |                                 |
| Separate PC take rates for sets with and without depredation?      |                              |                                 |
| Hook restriction?  |                              |                                 |
| Other gear restriction?  |                              |                                 |
| Simulated M&SI rate (actual = 89%), with rationale for change.     |                              |                                 |
| Other  |                              |                                 |

*Input parameters and summaries of original and simulated data will be provided for each simulation, along with histograms of false killer whale takes by fishery (DS, SS, combined) within HI EEZ and in high seas.*

*NOTE: Not (yet?) implemented:*

- a) Trip-based sampling*
- b) Simulating 5-year averages*
- c) Sampling only from full years at a time (to take into account inter-annual variability)*
- d) Triggers and consequences*



Simulation 001 (n=1000): 17200DS, 1600SS, MSI=0.89 (1-yr)

DS: 2003-09, Small Circle Hooks Only, SS: 2003-09

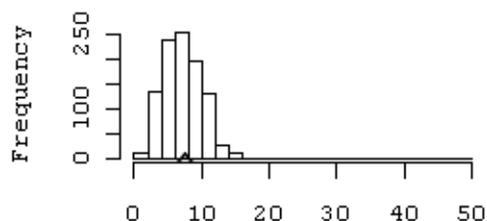
Mon Jun 14 17:19:27 2010

|                  | BaseDS | SimDS | BaseSS | SimSS |                 | BaseDS | SimDS | BaseSS | SimSS |
|------------------|--------|-------|--------|-------|-----------------|--------|-------|--------|-------|
| EEZ Sets:        | 8502   | 1468  | 1132   | 1132  | EEZ FKW M&SI:   | 12     | 2     | 1      | 1     |
| HiSeas(HS) Sets: | 11778  | 2524  | 5096   | 5096  | HS FKW M&SI:    | 12     | 3     | 0      | 0     |
| # TgtCatch:      | 171472 | 40476 | 81306  | 81306 | EEZFKW1000Sets: | 1.41   | 1.36  | 0.88   | 0.88  |
| TgtCtchperSet:   | 8.46   | 10.14 | 13.05  | 13.05 | HS FKW1000Sets: | 1.02   | 1.19  | 0.00   | 0.00  |

### Simulation Results

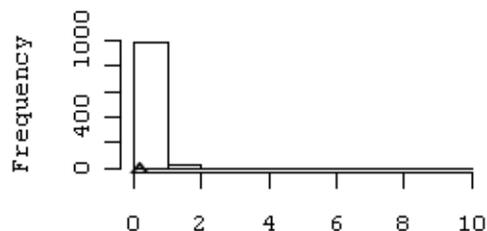
FKW M&SI:            HI EEZ    HiSeas  
 Target:                2.5        5.4  
 Sim. Results:           7.9        11.5

**DS, HI EEZ**



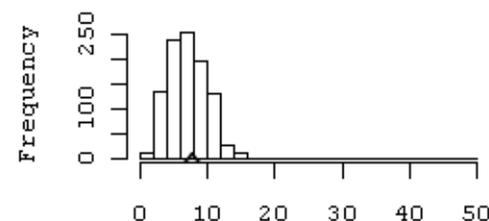
FKW M&SI (Avg=7.7)

**SS, HI EEZ**



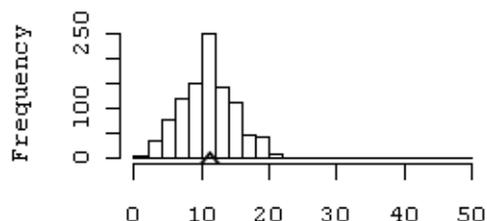
FKW M&SI (Avg=0.2)

**SS&DS, HI EEZ**



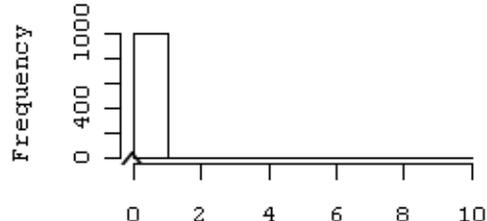
FKW M&SI (Avg=7.9)

**DS, High Seas**



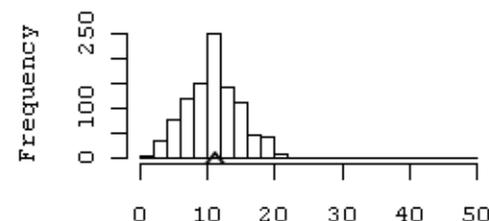
FKW M&SI (Avg=11.5)

**SS, High Seas**



FKW M&SI (Avg=0)

**SS&DS, High Seas**



FKW M&SI (Avg=11.5)

Simulation 002 (n=1000): 17200DS, 1600SS, MSI=0.89 (1-yr)  
 DS: 2003-09, SmCirc Hooks, Q3-4 Only, SS: 2003-09, Q1-2 Only

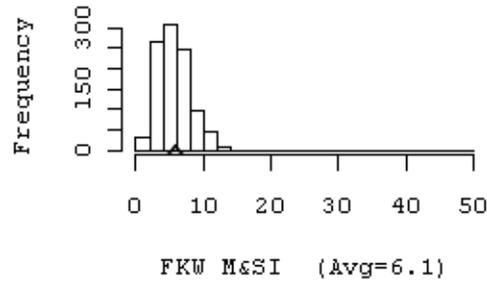
Mon Jun 14 17:36:03 2010

|                  | BaseDS | SimDS | BaseSS | SimSS |                 | BaseDS | SimDS | BaseSS | SimSS |
|------------------|--------|-------|--------|-------|-----------------|--------|-------|--------|-------|
| EEZ Sets:        | 8502   | 1001  | 1132   | 1128  | EEZ FKW M&SI:   | 12     | 1     | 1      | 1     |
| HiSeas(HS) Sets: | 11778  | 1477  | 5096   | 4191  | HS FKW M&SI:    | 12     | 2     | 0      | 0     |
| # TgtCatch:      | 171472 | 26343 | 81306  | 71638 | EEZFKW1000Sets: | 1.41   | 1.00  | 0.88   | 0.89  |
| TgtCtchperSet:   | 8.46   | 10.63 | 13.05  | 13.47 | HS FKW1000Sets: | 1.02   | 1.35  | 0.00   | 0.00  |

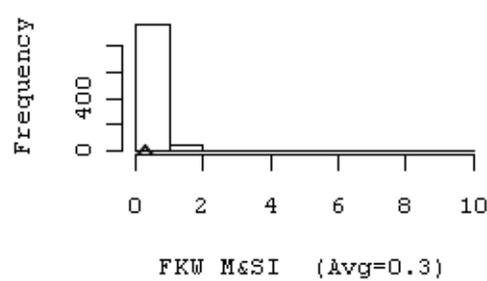
### Simulation Results

FKW M&SI:            HI EEZ     HiSeas  
 Target:                2.5        5.4  
 Sim. Results:         6.5        12.4

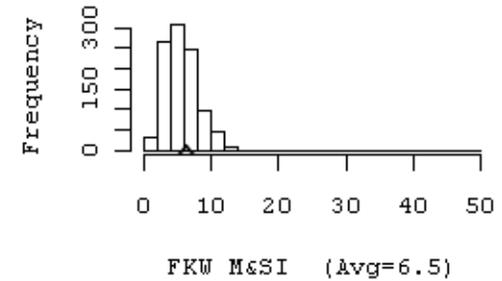
**DS, HI EEZ**



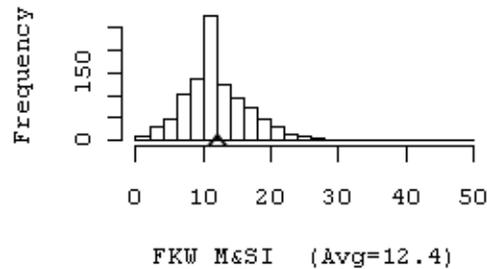
**SS, HI EEZ**



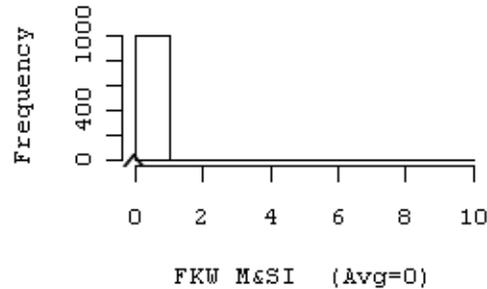
**SS&DS, HI EEZ**



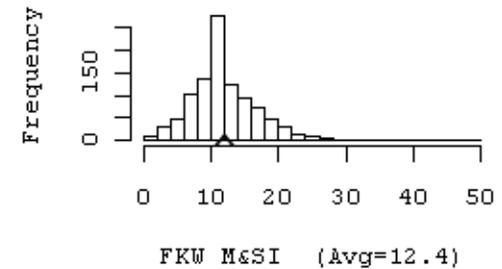
**DS, High Seas**



**SS, High Seas**



**SS&DS, High Seas**



Simulation 003 (n=1000): 17200DS, 1600SS, MSI=0.89 (1-yr)

DS: 2003-09, NoEEZ Eof162, SS: 2003-09, NoEEZ Eof162

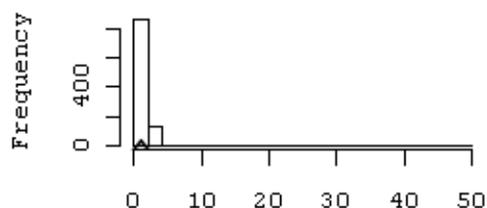
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|                  | BaseDS | SimDS  | BaseSS | SimSS |                 | BaseDS | SimDS | BaseSS | SimSS |
|------------------|--------|--------|--------|-------|-----------------|--------|-------|--------|-------|
| EEZ Sets:        | 8502   | 1496   | 1132   | 724   | EEZ FKW M&SI:   | 12     | 1     | 1      | 0     |
| HiSeas(HS) Sets: | 11778  | 11778  | 5096   | 5096  | HS FKW M&SI:    | 12     | 12    | 0      | 0     |
| # TgtCatch:      | 171472 | 117040 | 81306  | 76993 | EEZFKW1000Sets: | 1.41   | 0.67  | 0.88   | 0.00  |
| TgtCtchperSet:   | 8.46   | 8.82   | 13.05  | 13.23 | HS FKW1000Sets: | 1.02   | 1.02  | 0.00   | 0.00  |

### Simulation Results

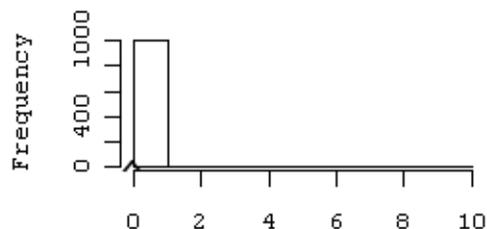
FKW M&SI:            HI EEZ    HiSeas  
 Target:                2.5        5.4  
 Sim. Results:         1.3        14.6

**DS, HI EEZ**



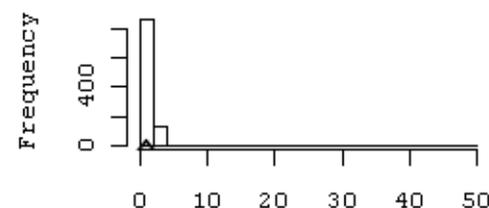
FKW M&SI (Avg=1.3)

**SS, HI EEZ**



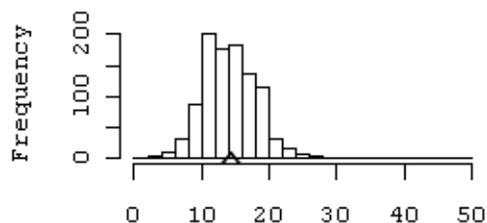
FKW M&SI (Avg=0)

**SS&DS, HI EEZ**



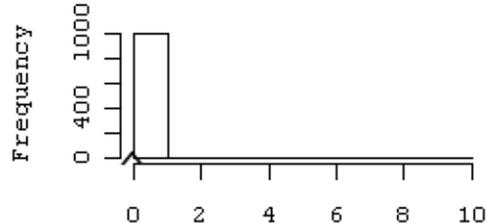
FKW M&SI (Avg=1.3)

**DS, High Seas**



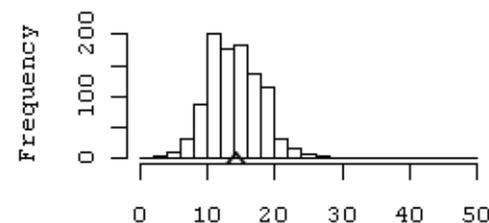
FKW M&SI (Avg=14.6)

**SS, High Seas**



FKW M&SI (Avg=0)

**SS&DS, High Seas**



FKW M&SI (Avg=14.6)

Simulation 004 (n=1000): 14200DS, 4600SS, MSI=0.89 (1-yr)

DS: 2003-09, -3000 sets, SS: 2003-09, +3000 sets

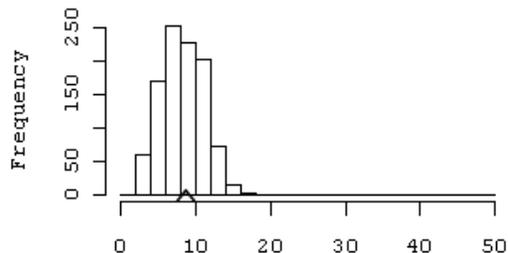
Mon Jun 14 17:45:39 2010

|                  | BaseDS | SimDS  | BaseSS | SimSS |                 | BaseDS | SimDS | BaseSS | SimSS |
|------------------|--------|--------|--------|-------|-----------------|--------|-------|--------|-------|
| EEZ Sets:        | 8502   | 8502   | 1132   | 1132  | EEZ FKW M&SI:   | 12     | 12    | 1      | 1     |
| HiSeas(HS) Sets: | 11778  | 11778  | 5096   | 5096  | HS FKW M&SI:    | 12     | 12    | 0      | 0     |
| # TgtCatch:      | 171472 | 171472 | 81306  | 81306 | EEZFKW1000Sets: | 1.41   | 1.41  | 0.88   | 0.88  |
| TgtCtchperSet:   | 8.46   | 8.46   | 13.05  | 13.05 | HS FKW1000Sets: | 1.02   | 1.02  | 0.00   | 0.00  |

### Simulation Results

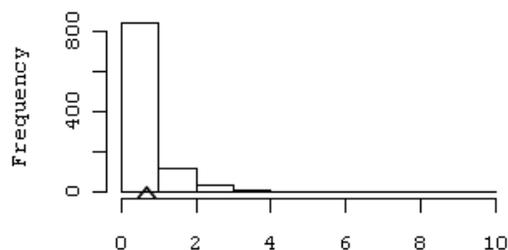
FKW M&SI:            HI EEZ    HiSeas  
 Target:                2.5        5.4  
 Sim. Results:           9.5        8.1

**DS, HI EEZ**



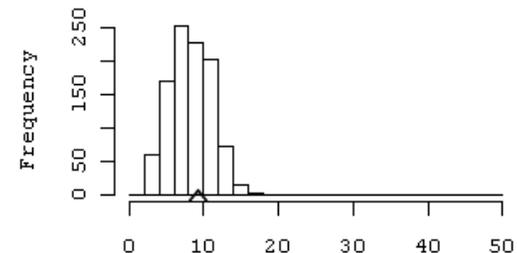
FKW M&SI (Avg=8.8)

**SS, HI EEZ**



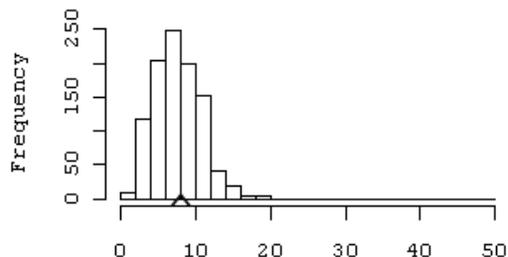
FKW M&SI (Avg=0.7)

**SS&DS, HI EEZ**



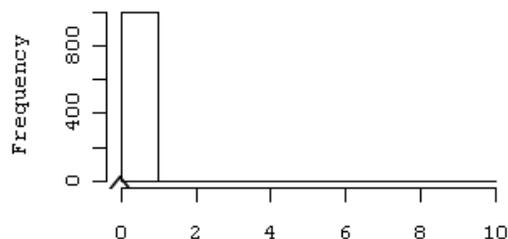
FKW M&SI (Avg=9.5)

**DS, High Seas**



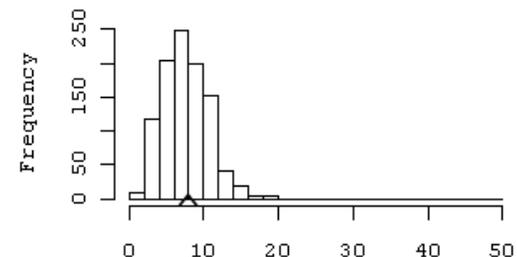
FKW M&SI (Avg=8.1)

**SS, High Seas**



FKW M&SI (Avg=0)

**SS&DS, High Seas**



FKW M&SI (Avg=8.1)