

SELRES Manning in Limited-Supply/High-Demand Skills

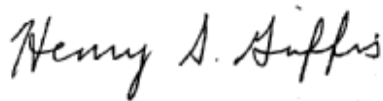
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A handwritten signature in black ink that reads "Henry S. Griffis". The signature is written in a cursive style with a large initial 'H'.

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Executive summary

Increased requirements for the Navy Reserve in support of the Global War on Terror (GWOT) have not been distributed evenly across all communities; some Limited-Supply/High-Demand (LS/HD) skills are experiencing difficulties in meeting mission requirements. The Director, Manpower, Personnel, Training and Mobilization (N0951) asked CNA to develop metrics to measure and monitor the Reserve Component's capacity to meet LS/HD missions and to suggest strategies to mitigate manning shortfalls in these skills.

The model

We construct a model that calculates various quarterly manpower metrics for a number of skills¹ for the 2-year period of July 2005 to June 2007. We estimate promotion and continuation rates, the number of recruits and affiliations, the percentage of reservists who are not mobilizable, and the number of reservists exiting dwell—the period in which previously mobilized reservists cannot be involuntarily remobilized. We also estimate the mobilization requirements for reservists with that skill, defined as the number of reservists who were newly mobilized or remobilized each quarter.²

Using these estimates, we calculate the ratio of the number of mobilizable reservists that will be available for each mobilization requirement in each quarter for the next 3 years. For instance, if we estimate that there will be 40 mobilizable E5s in the Master-at-Arms (MA) rating in the first quarter of FY09 and that, on average, 5 MA2s have been newly mobilized or remobilized per quarter in the past 2 years, we predict that there will be 8 mobilizable MA2s per requirement in the first quarter of FY09.

We calculate this ratio under two different assumptions regarding volunteers. The first one, which we refer to as the “best” case, assumes that the same rate of volunteerism that existed in the past 2 years will continue for the next 3 years. The “worst” case drops the assumption of volunteerism and assumes that all mobilization requirements must be met by Selected Reserve (SELRES) who are not in dwell. Given the fairly recent changes in remobilization policy, we suspect that the longer-term rate of volunteerism will be lower than it has been, but most likely not zero. Therefore, *if all other parameters remain constant*, the capacity (and hence the ratio) to meet mission in the future will most likely fall between the best case and the worst case. If, instead, recruiting or retention falls significantly, or mobilization requirements increase drastically, the ratio could fall below the worst ratio. Hence, the worst case ratio should not be interpreted as a floor defining the lowest the ratio could go in the next 3 years.

¹ For our purposes, a skill is defined as a rating/designator and paygrade combination.

² While many reservists are providing other types of valuable support to the Global War on Terror, it is beyond the scope of this project to incorporate anything other than mobilization requirements.

Further, our predictions are based on the assumption that manpower phenomena that existed in the period of July 2005 to June 2007 will not change for the next 3 years. Similarly, it assumes that mobilization requirements will also remain constant. Large changes in any of these parameters would greatly affect our predictions. Hence, the accuracy of predictions for the future diminishes the farther out we attempt to predict.

Working with our sponsor, we established a threshold of 6 mobilizable reservists for each requirement to indicate when a skill is LS/HD. Skills that are not currently considered to be LS/HD may become so very rapidly, leaving little time to implement policies to remedy manning shortages. The ability to predict the pace of changes in the capacity to meet mission is as important as the ability to measure the current status of skills. Hence, for each skill we estimate when there will be (a) fewer than 6 reservists, (b) fewer than 5 reservists, and (c) fewer than 4 reservists for each requirement.

Results

We predict the ratio for 42 enlisted ratings and 14 officer designators. According to our estimates, 31 of the 42 enlisted ratings either already are, or will be, LS/HD within the next 3 years in one or more paygrades. The ratings with the lowest ratio are the Seabees (BU, CE, CM, EA, EO, SW, and UT). Most paygrades in each of these ratings are predicted to be LS/HD now or within the next 3 years.

We also found that 5 enlisted ratings that we predict either currently are, or will be, LS/HD do not receive any recruiting or reenlistment incentives (BM, CS, OS, SK, and YN). In general, most recruiting/affiliation incentives are targeted at E4 or E5 paygrades, while no reenlistment incentives are available for paygrades E7 and above. Even so, many of the skills that we predict to be LS/HD now or in the future are in the more senior paygrades. For instance, 86 SKs in the E7 paygrade are currently mobilizable, and we predict that their current worst case ratio is already at the threshold of 6.

There are only four officer designators that we predict are LS/HD now or will be within the next 3 years (Special Warfare, Info, Supply, and Civilian Engineering Corps). Conversely, there are a number of skills with very large ratios. For instance, the current worst case ratios for O4 Pilots, O3 Naval Flight Officers (NFOs), and O4 Judge Advocate General's Corps (JAGs) are 159, 123, and 162, respectively. There may be other reasons why so many reservists have these skills, but we suggest that their mobilization requirements in the past 6 years (i.e., since September 11th, 2001) may provide some guidance as to their future requirements.

Sensitivity analyses

We illustrate with the Builder (BU) rating how the model can be used to conduct sensitivity analyses that change one demand- or supply-side element to see the effect on capacity and to help identify strategies to improve a skill's capacity. Specifically, we show what would happen to the ratio if continuation rates were increased, if recruiting were increased, or if the mission were decreased. Because the ratio is currently below 6 for most BU paygrades, our analyses indicate that simultaneous improvements in all three metrics would not be enough to increase the ratio to above 6 for most paygrades within the next 3 years.

Recommendations

We have conducted a preliminary analysis of LS/HD skills in this study; we believe that more analysis is necessary, including the following:

- Conduct sensitivity analyses of more LS/HD skills. Cost estimates of various options could also be generated, which would be helpful in determining which strategies have the potential to be more cost-effective.
- Determine what the right LS/HD threshold should be. A uniform metric that could be applied to all skills has benefits, but it may not be appropriate.
- Update the ratio at the end of each quarter. Quarterly updates are one way to ensure that Navy leadership is monitoring the ability of the Reserve to continue to meet all of its various missions, and to provide ample time to address potential shortages in the future.
- Determine whether reserve continuation or recruiting has changed since the new mobilization policy went into effect.
- Examine incentives currently offered to reservists and determine whether they are necessary, whether they are at the right level, and whether they are effective in general.
- Reexamine current Reserve Component Billets Authorized (BA) and mobilization requirements. Ratios of 200 or more mobilizable reservists for every mobilization requirement may indicate that manning can be reduced in that skill, or that mobilization requirements are not adequately measuring all of the requirements for reservists with that skill. Conversely, it may be that skills with low ratios, implying a fairly high rate of mobilization, require an increase in BA.
- Create variables within the Reserve Headquarters System (RHS) that indicate when a reservist is mobilized for training, is mobilized but on annual leave, or is voluntarily mobilized. It would also be beneficial to include a variable that indicates the date that the reservist's dwell period expires. Future analysis, as well as the Navy's current ability to identify mobilizable assets, is hindered by the lack of unambiguous and more detailed data.

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SELRES Manning in Limited-Supply/High-Demand Skills

Peggy Golfin
With Dave Gregory

The Navy Reserve has been used at historically unprecedented levels in the past few years, in terms of both absolute numbers and the duration of reservists' service. The increased requirements are not distributed evenly across all communities; some Limited-Supply/High-Demand (LS/HD) skills are experiencing difficulties in meeting mission requirements. The Director, Manpower, Personnel, Training and Mobilization (N0951) asked CNA to develop metrics to measure and monitor the Reserve Component's capacity to meet LS/HD missions and to suggest strategies to mitigate manning shortfalls in these skills.

In this annotated briefing, we describe a metric that we constructed to measure the capacity of a skill to meet mobilization requirements now and in the near future.¹ The metric is composed of a number of personnel phenomena, such as recruiting, promotions, and retention, and it requires inputs from a number of data systems. We describe these inputs in detail and provide an estimate of our metric, as well as other key phenomena related to the metric, for numerous officer and enlisted skills.

¹ While many reservists that are not mobilized are serving vital functions in the Global War on Terror, we confine our analysis to mobilization requirements.

Specific Tasks



- Director, Manpower, Personnel, Training and Mobilization (N0951) assigned us to:
 - Identify enlisted and officer LS/HD skills
 - Examine trends in both demand and supply in the past 2 years
 - Determine capacity to sustain mission in these skills
 - “What if” scenarios
- We built a model that uses data from the last 2 years to predict capacity for the next 3 years

Our primary goal is to develop a metric that will indicate which skills are LS/HD and which are likely to become LS/HD in the near future. Many communities, especially those that have been mobilized at high rates under the Global War on Terror (GWOT), are already monitoring a number of metrics that help to define the capacity to meet mission in the near future. A common, consistent metric that can be applied to all skills—and that can both describe the current capacity and predict longer-term capacity to meet mission—is necessary, however, to make meaningful comparisons across communities so that remediation efforts can be evaluated and prioritized.

The Navy specified that, in the face of uncertainty regarding future GWOT requirements, our model should assume that the supply of, and demand for, reservists in each skill will continue in the future as they have in the past 2 years. In other words, we assume that mobilization requirements (demand side) and promotions, retention, and recruiting (supply side) will continue at the same rates that existed for the past 2 years. We then use these supply- and demand-side parameters to predict the capacity of each skill to meet mission for the next 3 years.

Next, we illustrate how the model can be used to conduct sensitivity analyses that change one demand- or supply-side element to see what the effect would be on capacity. For instance, we illustrate how the model can be used to determine how the capacity to meet mission of enlisted reservists in the Builder (BU) rating would be improved if continuation rates were increased, if recruiting were increased, or if the mission were decreased.

As we will describe in more detail later, in addition to identifying skills that are currently LS/HD, our metric is useful in predicting the speed with which skills are diminishing in their capacity to meet mission. Skills that are not currently considered to be LS/HD may become so very rapidly, leaving little time to implement policies to remedy manning shortages. The ability to predict the pace of changes in the capacity to meet mission is as important as the ability to measure the current status of skills.

Current LS/HD Skills



- Naval Coastal Warfare (NCW)
- Special Warfare (Specwar)
- Naval Expeditionary Logistics (NAVELSG)
- Fleet Marine Force Support (FMF)
- Civil Engineering Corps (CEC)
- Engineering Duty (ED)
- Seabees
- Bureau of Medicine (BUMED)
- Intel
- Information Professionals (IP)
- Supply

Although no definition of Limited-Supply/High-Demand skills exists, the Navy recognizes that there are a number of Selected Reserve (SELRES) skills that have had large mobilization requirements relative to their ability to recruit, train, promote, and/or retain Servicemembers with these skills. We note these skills here, according to [1].

Even though some of these skills are well defined, such as Seabees and CEC, others are not. For instance, there are no enlisted ratings or enlisted communities with the nomenclature “Naval Expeditionary Logistics” or “Fleet Marine Force Support.” Further, not all Hospital Corpsmen (HMs) or physicians (designator 210X) are LS/HD; their status as LS/HD is largely a function of their specialized skills, identified by Navy Enlisted Classifications (NECs) (enlisted) and subspecialties (physicians) and, in some cases, by the reservist’s assigned billet.

Identifying which NECs or subspecialties are considered necessary for each skill is beyond the scope of this study.¹ The model that we have developed can be modified for different levels of detail, except when the skill is so narrowly defined that it includes only a few people. At this level of detail, however, the skill may no longer require a model to indicate that it is LS/HD; community managers supervising a dozen or so SELRES with a particular skill are most likely aware of how long they can continue to meet their mission.

We concentrate on developing our metric at the rating/designator and paygrade level only, which, in combination, is what we refer to as a skill in the remainder of this document.

¹ It is likely that the definition of which skills are NCW, NAVELSG, etc., has been continuously refined as the Navy assigns SELRES with various skills to fill requirements, and feedback is provided, by both the reservist and the command making the request, on the adequacy of the skill set of the person to fulfill the mission.

Dwell Time



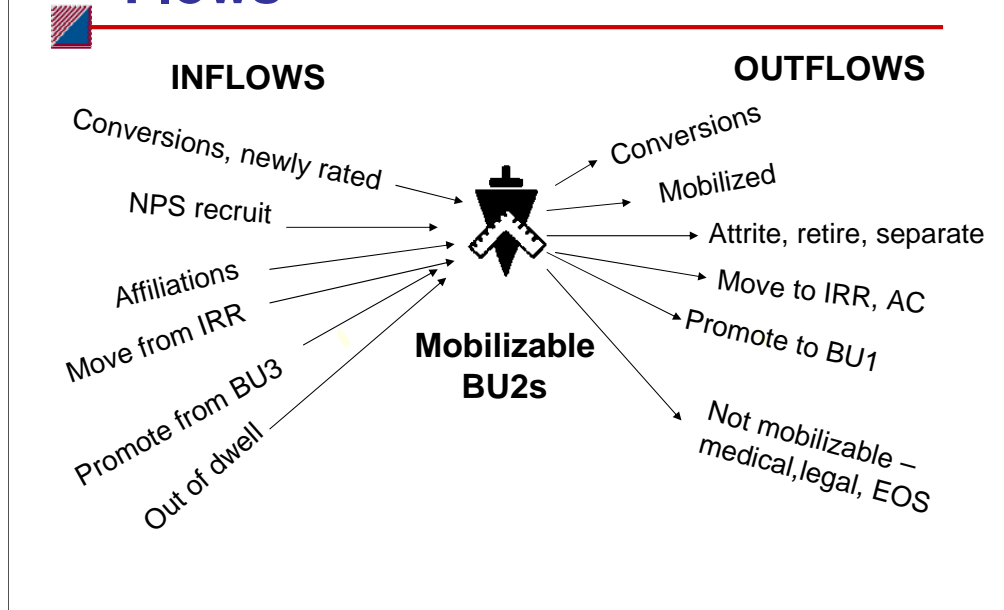
- Period of time after mobilization
 - Reservists can't be involuntarily mobilized in dwell
- Policy has changed over time
- Current policy is 1:5 ratio of mobilization to dwell
 - Maximum involuntary mobilization is 12 months; maximum dwell is 60 months
 - Mobilization for training does not incur dwell
 - Annual leave taken at the end of mobilization is part of dwell
 - Voluntary mobilizations during dwell are a part of dwell

Before we summarize the model's major components, we need to define the term *dwell*. Over the course of the GWOT, the Department of Defense (DoD) has issued various policies regarding the maximum cumulative and consecutive months a reservist can be mobilized, as well as when he or she can be remobilized. The Navy has also issued its own guidance, typically with lower limits on the number of months a reservist could be mobilized or a greater number of months before he or she could be remobilized. For instance, when DoD permitted mobilizations up to 18 months, the Navy's policy was to limit mobilizations to 12 months in most cases.

Early on, policies specified that involuntarily mobilized reservists could be mobilized only once under the GWOT. The policy was later changed to no more than 12 months of mobilization for every 72 months. The period after demobilization, before the 72 months expired, is known as dwell—the period during which a previously mobilized reservist cannot be remobilized involuntarily.

The latest DoD dwell policy, issued in March 2007 for all mobilization orders published on or after 19 January 2007 [2], stipulated that (1) involuntary mobilizations may not exceed 12 months at any one time, but the Services may, at their discretion, exclude individual skill training required for deployment and postmobilization leave from the 12-month cap, and (2) the planning objective for involuntarily mobilized reservists was 1 year mobilized to 5 years demobilized. The Services could use this dwell ratio (1:5) for mobilizations of less than 12 months based on the force generation models approved by the Secretary of Defense. In other words, reservists with a mobilization period of less than 12 months could be granted a dwell period of 5 times the period they were mobilized. Annual leave taken after mobilization is considered part of the dwell period. Voluntary mobilizations during dwell are also considered to be part of dwell.

Our Model: Predict Quarterly “Flows”



We summarize the major components of the first part of the model in this slide. We use the BU2 skill for illustration.

Simply put, our model calculates various manpower metrics for the 2-year period from July 2005 to June 2007 to predict the number of mobilizable reservists a skill will have for the next 3 years. To account for seasonal patterns in various phenomena, such as promotions and recruiting, our model is based on quarterly calculations. We then use these metrics to predict how many reservists in a skill will be available each quarter for the next 3 years, assuming the same level of quarterly phenomena.

For each quarter in this period, we calculate how many reservists in a rating/designator and paygrade were available for mobilization. This includes calculating quarterly continuation of reservists in that rating/designator and paygrade that have never been mobilized,¹ the percentage that were never mobilized and were promoted into that paygrade within the quarter, and the number of reservists gained in that quarter that could be mobilized.

¹ The policy of involuntarily remobilizing reservists is fairly recent, so we are not able to predict the continuation rate of those in dwell. Instead, we assume that their continuation rate as they approach the end of dwell will be the same as never-mobilized reservists, who, like those nearing the end of dwell, are faced with the possibility of being mobilized in the near future. We also apply the average promotion rate for the never-mobilized reservists to those in dwell to predict how many reservists currently in dwell will remain in SELRES until the end of their dwell period and, if they do continue, what their paygrade would be at that time.

Reservists with any of the following activities within the quarter are considered gains: (1) becoming rated/converted to that rating (or designator) and paygrade and not currently in dwell, (2) affiliating from the Active Component (AC), (3) a direct SELRES Non-Prior-Service (NPS) or Prior-Service (PS) accession, (4) transitioning from the Individual Ready Reserve (IRR) and not in dwell, (5) promoting into the paygrade, and (6) completing dwell.

We average the two observations (one for each fiscal year) for each of these metrics for each quarter so that we can use these averages to predict future phenomena. For instance, we average continuation rates in the first quarter of FY06 and FY07 of all E6 BUs to get a predicted first quarter continuation rate for the next 3 years. We also use these continuation and promotion quarterly averages to predict whether a reservist will continue to the end of dwell and, if so, what paygrade he or she will be on exiting dwell (while we apply the 1:5 ratio to determine the date that a reservist will end dwell, for simplicity we predict continuation and paygrade assuming a 4-year dwell period).


Similarly, we calculate the quarterly losses of mobilizable reservists in a rating/designator and paygrade. These include losses from SELRES (including retirements, separations, attrites, and transition to the IRR or the AC), conversions to other ratings/designators, promotions, and the loss of reservists who were newly mobilized the previous quarter.¹

Finally, we calculate the percentage of reservists during this time period in each skill that have been determined to be unmobilizable for reasons other than dwell, such as medical reasons, because they have not completed training, or because they refuse to extend their obligated service. We describe how this is derived in more detail later.²

¹ Most of these losses are captured in our continuation rate. The only loss that is not is mobilization. We smooth large fluctuations in mobilizations by calculating the average quarterly demand for newly mobilized reservists over the previous 8 quarters (vice a 1st quarter requirement, 2nd quarter requirement, and so on).

² The relatively poor quality of the data pertaining to the end of obligated service (EOS) for enlisted personnel does not allow us to identify which reservists are not eligible for mobilization based on expiring EOS. As we discuss later, this is usually captured in the codes we use to determine ineligibility. Also, the data do not allow us to identify people in Sanctuary—defined as Servicemembers with 16 or more years of active federal service—who generally are not eligible for mobilization. This should include relatively few Servicemembers, and primarily those in senior ranks.

Data Sources

-  DMDC provides RCCPDS, Contingency Tracking System (CTS)
 - “Official DoD” data
 - We use RCCPDS for promotion, continuation data
 - CTS is most accurate mobilization data
 - DMDC worked with PERS 461 in FY06 to verify orders
 - Voluntary versus involuntary issues
 - We impose 1:5 dwell on all mobilized reservists throughout the GWOT
- Navy’s Reserve Headquarters System (RHS)
 - The only source for MAS, IMS codes
 - Used to determine ineligibility

In this slide, we identify the sources for the various components of the model that we described previously. Our primary source for most of the model inputs is the Reserve Components Common Personnel Data System (RCCPDS), DoD’s official source of reserve strengths and related data. RCCPDS is compiled by the Defense Manpower Data Center (DMDC), using data provided by each of the Services. The Navy provides data from a number of sources—primarily the RHS—to DMDC. We refer interested readers to appendix A, which provides a diagram of the flow of various data between the AC, RC, and DMDC.

We use monthly RCCPDS data to tabulate most of the quarterly metrics we described previously. Exceptions include the number that are newly mobilized and the number that are not mobilizable.

All of the Services have had difficulty keeping accurate records of mobilized reservists (see, for instance, [3]), and the Navy is no exception. While the Navy keeps track of mobilized reservists within the RHS and the Navy Enlisted Personnel System/Officer Personnel Information System (NES/OPINS), we have found that the best source is the Contingency Tracking System, which is also maintained by DMDC.¹ DMDC personnel worked with PERS 461 (now PERS 4G1) in the summer of 2006 to improve the accuracy of the information contained in the CTS. In particular, they verified that each reservist who was identified as being mobilized on CTS had mobilization orders. Similar to RCCPDS, the CTS is also DoD’s official source of this type of information.

¹ Appendix B provides a more descriptive explanation of the various sources of mobilization data and errors that we have identified.

The CTS keeps track of reservists who are involuntarily mobilized (pursuant to 10 USC 12302) and those who voluntarily extend beyond their 12-month maximum or who volunteer for remobilization (pursuant to 10 USC 12301(d)). We believe, however, that the number of mobilized reservists may be underestimated in the CTS. In particular, voluntarily mobilized reservists are on Active Duty for Special Work (ADSW), but there are numerous categories of ADSW that do not pertain to voluntary mobilization (funeral honors is one example). The codes used by the Navy to indicate which type of ADSW orders a reservist is on, which are the same ones that DMDC uses to construct the CTS, have changed numerous times under the GWOT and have not always mentioned 12301(d) orders specifically. As a consequence, we suspect that many of those voluntarily mobilized have not been captured. See appendix B for more details.

We also use the CTS to calculate demobilized reservists' dwell time. While reservists who were mobilized early in the GWOT did not fall under the new mobilization policy when they demobilized, they are now subject to these new dwell rules. We, therefore, project a date when all previously mobilized reservists will be available for remobilization, based on the 1:5 dwell policy, with a maximum of 60 months of dwell.¹ Because we are unable to differentiate mobilization for training or annual leave that is taken at the end of a mobilization (the reservist is still considered to be mobilized according to the CTS), we are erroneously imposing a dwell period on reservists in the former situation and overestimating the dwell period for some reservists in the latter situation. This imposes minimal errors, however, because the policy only recently allowed mobilization for training. Further, in terms of annual leave, if a reservist was mobilized for the first part of the month and took leave through the end of the month, he or she is considered to have been mobilized the entire month for dwell purposes. Only those reservists who were solely on annual leave for any or part of a month will have their dwell time overestimated—and, at most, by 3 months (if annual leave was taken after their first 12 months, there is no overestimation because of the 60-day cap on dwell). This illustrates, however, the importance of creating variables within RHS to indicate when a reservist is mobilized for training or is on annual leave.

RHS and, more specifically, the Inactive Manpower and Personnel Management Information System (IMAPMIS), contains information required for the model that is not available on RCCPDS or the CTS. In particular, we require information regarding which reservists were not mobilizable for any of a number of reasons other than dwell. This information is found in two variables on IMAPMIS: Individual Mobilization Status (IMS) and Mobilization Availability Status (MAS).

¹ Our RCCPDS data start with June 2003. For those reservists mobilized before that date, we calculate dwell time based on the date the IMS field indicates that he or she was demobilized. For those cases that are missing that information, we begin dwell on the first date the reservist is on RCCPDS.

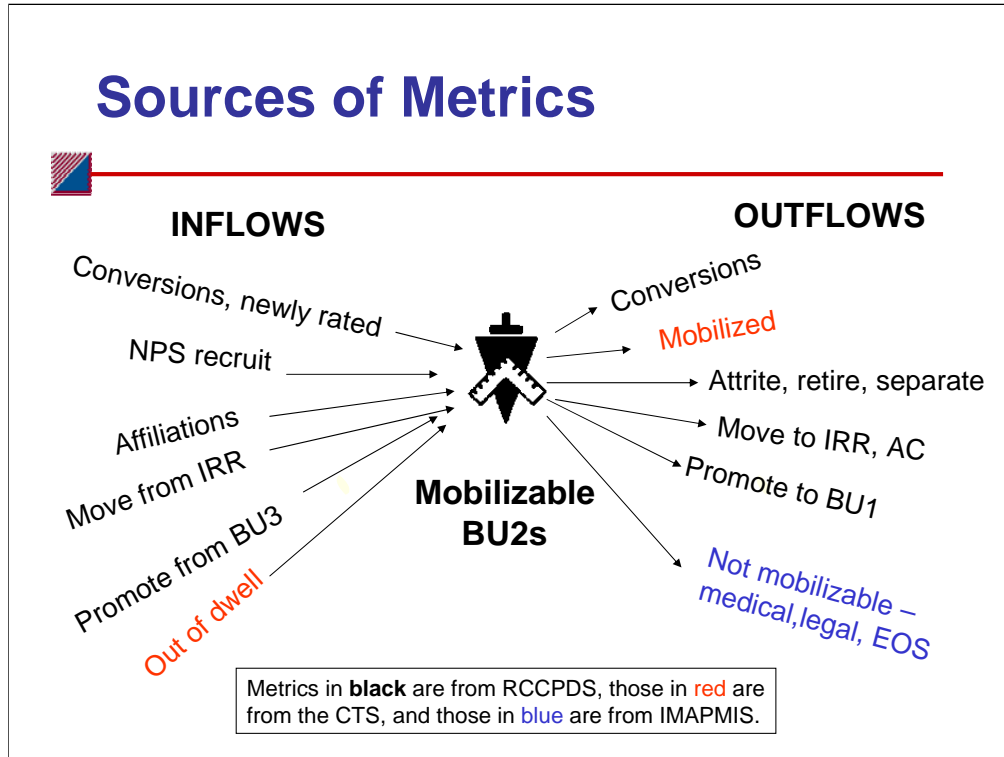
The MAS variable is maintained by personnel in the reservist's Navy Operational Support Center (NOSC).¹ It lists any condition that renders a reservist unable to drill or to be mobilized, whether the reservist is a volunteer for mobilization or is currently on ADSW. In appendix C, we note those MAS codes that we use to indicate that a reservist is unmobilizable.

Once a reservist has been tagged for mobilization, a code is entered in the IMS field indicating that the person has been identified for mobilization (R##), and the NOSC updates the field as the mobilization process proceeds. Once the reservist is tagged, the NOSC may no longer change any field in the RHS, except for the IMS field, and the Servicemember is added to the Active Component database (NES for enlisted, OPINS for officers). This creates some confusion and data inaccuracies, and it supports our decision to rely on the CTS for mobilization data. For instance, if a reservist is tagged for mobilization while on ADSW (recall that ADSW is noted in a MAS code), the ADSW MAS code cannot be changed until the reservist is demobilized. In other words, the reservist will appear to be both on ADSW and mobilized at the same time in the RHS. If the reservist really is mobilized, he or she should be on the CTS, but this is not always the case. For instance, of the 74 enlisted SELRES in March 2007 who have a MAS code indicating that they are on ADSW and an IMS code indicating that they are mobilized, only 51 (69 percent) are on the CTS.

Not all unmobilizable reservists are identified as such in their MAS code before being tagged for mobilization. Since the MAS code cannot change once a reservist is tagged, tagged reservists deemed to be unmobilizable are given an IMS code that indicates that they are not eligible for mobilization. Again, we note in appendix C those IMS codes that we use to identify unmobilizable reservists.

¹ Personnel at the NOSC enter changes into the Navy Standard Integrated Personnel System (NSIPS), which is then fed into the RHS. See appendix A for details.

Sources of Metrics



In this slide, we summarize the source for each of our metrics. Almost all of our data are derived from RCCPDS, and we do not differentiate most of these metrics. For instance, we are concerned only with adding people who were not on RCCPDS the previous quarter in that rating/designator and paygrade, regardless of why they were an addition. In other words, we do not distinguish whether a person was an NPS recruit or an affiliation, moved from the IRR, converted to the rating, or became newly rated. We do differentiate promotions since this is a separate metric for our predictions. We also differentiate additions due to expiration of dwell, which is not based on RCCPDS.

We rely on the CTS for the number that are mobilized and, in most cases, for calculating dwell. Specifically, we rely on the CTS for information regarding the last month in which the reservist was mobilized, and the total number of months he or she was mobilized during that mobilization.¹ These are the two pieces of information necessary to calculate the 1:5 dwell time.

Finally, as we explained previously, all information pertaining to the percentage of reservists who are not mobilizable for reasons not related to dwell is derived from the IMS and MAS codes in IMAPMIS.

¹ In a few cases, we are missing the date the reservist was demobilized. For these reservists, we use the IMS date on IMAPMIS that is associated with a demobilization code (RD1, in most cases).

The Metric of Interest

- We predict the number of available Servicemembers for each mobilization requirement for the next 3 years
 - Assumes status quo in recruiting, promotions, continuation, mobilization, volunteerism
 - The farther out we predict, the less accurate the prediction becomes
 - Model is less meaningful for skills with few Servicemembers
- We predict under two different scenarios:
 - The “best” case: The same level of volunteerism will continue
 - Mobilization requirements are only the number involuntarily mobilized the past 2 years
 - The “worst” case: We add in the number voluntarily remobilized
- A skill is LS/HD when the ratio goes below 6
 - May be a function of the time to train or grow the skill
 - O5 Pilot vs. E4 CS

We turn now to the metric that we have constructed to determine the capacity of a skill to meet mission now and through the next 3 years. This metric is derived from the model we have described, which provides two important pieces of information in response to the following questions: (1) how many mobilizable reservists are predicted to be available each quarter for the next 3 years, and (2) based on the 2-year period under study, what are the quarterly requirements for newly mobilized (or remobilized) reservists with that skill? We use these two values to calculate the ratio of the number of mobilizable reservists available per requirement, which is simply the value in (1) divided by the value in (2). In other words, if we predict that in the first quarter of FY09 there will be 56 E4s in the Master-at-Arms (MA) rating who are mobilizable, and that the quarterly average requirement for newly mobilized (or remobilized) E4 MAs is 9, there will be 6.2 (56 divided by 9) E4 MAs available for each requirement.

Recall that these predictions are based on the assumption that continuation rates, promotions, recruiting, training, and other manpower phenomena that existed in the period of July 2005 to June 2007 will not change for the next 3 years. Similarly, it assumes that mobilization requirements will also remain constant. If, however, a skill experienced a large and sustained increase in mobilization requirements in the last 2 or 3 quarters of this period, the 8-quarter average will greatly underestimate the mobilization requirements for the next 3 years. Hence, the accuracy of predictions for the future diminishes the farther out we attempt to predict. Further, as we noted previously, the metric is less accurate for skills with relatively few reservists; the behavior of one or two people can greatly influence all of the metrics when there are only a few reservists with the skill.

We calculate this ratio under two “volunteer” scenarios. The first, which we refer to as the “best” case, assumes that the same rate of volunteerism (i.e., those remobilized before the expiration of dwell or reservists in the IRR who were mobilized) that existed in the past 2 years will continue for the next 3 years (we explain this in more detail shortly).

The “worst” case drops the assumption of volunteerism and assumes that all mobilization requirements (the sum of all SELRES and IRR that were newly mobilized or remobilized each quarter) must be met by SELRES who are not in dwell. Given the changes in remobilization policy—specifically, that previously mobilized reservists may be remobilized, and that voluntary mobilizations count as dwell—we suspect that the longer-term rate of volunteerism will be lower than it has been, but most likely not zero. Therefore, *if all other parameters remain constant*, the capacity (and hence the ratio) to meet mission in the future will most likely fall between the best case and the worst case. If, instead, recruiting or retention fall significantly, or mobilization requirements increase drastically, the ratio could fall below the worst ratio. Hence, the worst case ratio should not be interpreted as a floor defining the lowest the ratio could go in the next 3 years.

Working with our sponsors, we have established a ratio threshold of 6 to indicate when a skill is LS/HD. This value provides a “safety margin” in the case of rapid and/or large changes in any of the phenomena that are key to the prediction, such as a large unplanned decrease in continuation, a significant failure in recruiting to meet goal, a sudden increase in mobilization requirements, or a change in dwell policy.

A threshold of 6 may not be appropriate for all skills, however. Certainly, there are some skills that are able to increase inventory more rapidly than others. Consider, for instance, how fast a deficit in E4 Culinary Specialists (CSs) could be remedied, relative to a deficit in O5 pilots. As we illustrate later with the BU example, it may be more appropriate to set the threshold at a higher level for all skills, at least as an early warning signal, since it may be too late, too difficult, or too expensive to improve the capacity of some skills once they reach a ratio of 6. Or, the threshold may need to be a function of paygrade, with a lower threshold more appropriate for more junior-level reservists since there are relatively more options for increasing their numbers, as we discuss later. Finally, because of reserve data irregularities, some of which we described previously, a higher threshold would allow for a greater margin of error in the numerous manpower estimates necessary for calculating the metric of interest.

Volunteers



- Different remobilization policies have been in effect throughout GWOT
 - Most reservists were mobilized under a 1-year-mobilized-in-6-years policy
 - Current policy is maximum of 12 months with 1:5 ratio of dwell to mobilization
- Navy's policy has been to involuntarily mobilize reservists the first time they are mobilized
- We define volunteers as reservists mobilized for at least 4 months in their first mobilization and remobilized less than 5 years after the date of demobilization
 - Allows for up to 3 months of mobilization for training

As noted previously, we construct two ratios—one that includes volunteers and one that does not. The definition of a volunteer is not straightforward, however, primarily because the policy for remobilization has changed a number of times. Before the last policy change, a reservist who was mobilized, say, 9 months had little chance that he or she would be remobilized again for 5 years (under a 1-year-in-6-years policy). Those who were remobilized were most likely volunteers, but under the current policy we cannot assume that reservists who are remobilized, even those remobilized during dwell, are volunteers. For instance, those who were mobilized for training (up to 3 months) may be mobilized again since mobilization for training is part of dwell. Again, as we noted earlier, we cannot differentiate mobilization for training from other types of involuntary mobilization. Further, even if a reservist is a volunteer, the Navy's policy has been to involuntarily mobilize reservists the first time they are mobilized.

We also noted previously that reservists who voluntarily extend their mobilization after 12 months are supposed to have a change in their status from mobilized to ADSW pursuant to 10 USC 12301 (d). The code on NES/OPINS indicating this change, however, only became available in September 2005. From that time through June 2007, there have been only 18 enlisted and 43 officers with that code. We believe that this is an underestimate of the number of true volunteers.

Instead, we have created a rule to identify remobilized reservists that incorporates the new mobilization-for-training policy. Specifically, we consider a remobilized reservist to be a volunteer if he or she was mobilized more than 4 months in his or her first mobilization and was remobilized within 5 years of the date he or she first demobilized.

BU Example

Pay-grade	Current ratio		When will worst ratio drop below:			2-year mobilization requirements			Current mobilizable	Continuation	Un-mobilizable
	Best	Worst	6	5	4	Invol	Vol	ADSW*			
E4	8.4	7.7	10 Q2			149	12	2	223	87.8%	2.0%
E5	7.6	5.8	NOW	08 Q2	08 Q3	215	60	4	216	92.4%	8.3%
E6	9.2	6.5	08 Q1	08 Q2	08 Q3	124	46	3	135	95.9%	5.5%
E7	3.6	2.7	NOW	NOW	NOW	46	11	1	25	95.0%	4.2%
E8	6.0	2.9	NOW	NOW	NOW	5	4	1	5	100%	4.6%

* See footnote 1 on next page.

BUs receive New Accession Training (NAT) and PS Enlistment Bonus; E4-E6 receive tier 1 level Reenlistment/Extension Bonus.

In appendices D and E, respectively, we provide estimates of the best and worst case ratio as of the end of FY07 for 42 enlisted ratings and 14 officer designators. We selected the largest officer designators and excluded those with relatively few members who have ever been mobilized. Enlisted ratings were included if they were currently eligible for an enlistment or reenlistment incentive. We included some additional ratings that did not currently receive an incentive (and that had a sufficient number of reservists) that had a fairly large percentage that have ever mobilized. As we describe shortly, our metric indicates that many of these skills are predicted to become LS/HD within 3 years, so that they may, in fact, require incentives now to prevent them from becoming LS/HD. Again, we caution against relying on these estimates for skills with relatively few Servicemembers because of the large influence of the actions of one reservist on the results. For instance, the continuation rate of a skill with just ten reservists will change by 10 percentage points if just one more reservist separates each quarter.

In this slide, we illustrate the information provided in these appendices with the BU rating; it is estimated to be one of the worst of all ratings because all paygrades are predicted to be below 6 within 3 years, and most are already below that threshold. We will refer back to this example when we describe our sensitivity analysis.

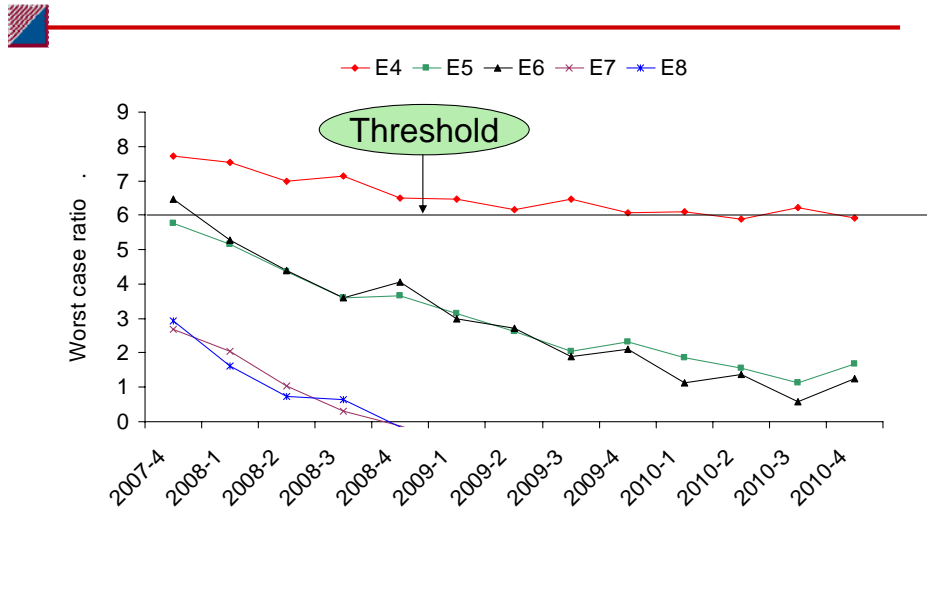
Skills that are not currently considered to be LS/HD may become so very rapidly, leaving little time to implement policies to remedy manning shortages. The ability to predict the pace of changes in the capacity to meet mission is as important as the ability to measure the current status of skills. Hence, for each skill, in addition to indicating when we predict the ratio will be below 6, we also indicate when we predict there will be (1) fewer than 5 reservists and (2) fewer than 4 reservists for each requirement.

For enlisted skills, we calculate ratios only for E4 and above. We also include (1) the number of reservists with that skill that we estimate are mobilizable as of June 2007 (either they were never mobilized or are out of dwell), (2) the total number mobilized or remobilized in the 2-year period under study (voluntary and involuntary), (3) the number on ADSW in the 2-year period,¹ (4) the continuation rate of never-mobilized reservists with that skill between March and June 2007, (5) the average quarterly percentage of reservists with that skill who were not mobilizable according to MAS or IMS codes, and (6) enlistment and reenlistment incentives available.²

¹ We include the number on ADSW even though reservists on ADSW may be mobilized. The Navy may find it increasingly difficult to fill ADSW requirements for LS/HD skills, particularly with the new dwell policy. If this is the case, options will need to be explored that will allow the Navy to fulfill mobilization requirements, as well as to do the jobs that reservists currently on ADSW are filling.

² Officer recruiting incentives are according to NAVADMIN 294/07, enlisted recruiting incentives are according to NAVADMIN 065/07, and enlisted reenlistment incentives are according to NAVADMIN 142/07.

BU Worst Case Ratio



We illustrate the information in the previous table in this slide. Specifically, we graph the BU predicted worst case ratio, by quarter, for the next 3 years.

Several phenomena are apparent in this slide. For instance, while the ratio for BU3 is predicted to fall below 6 in the second quarter of FY10, we predict that the ratio will remain fairly steady thereafter, at around 6. The predicted ratios for E5 through E8, however, are all in a rapid decline, with all of these paygrades predicted to currently (i.e., in the second quarter of FY08) have a ratio below 5. In fact, we predict that there will be no mobilizable BUs in paygrades E7 and E8 by the end of this fiscal year.

Referring to the previous slide, note that there are currently 25 mobilizable E7s and just 5 mobilizable E8s. Further, relying on volunteerism will not necessarily increase the capacity to meet mission sufficiently; 11 out of the 57, or just 19 percent of the E7 2-year mobilization requirements, have been filled with volunteers, while 44 percent of the 9 E8 requirements have been.

Summary



- Of 42 enlisted ratings:
 - 31 are predicted to be LS/HD now or within 3 years in one or more paygrades
 - 5 of these are currently not receiving any recruiting or reenlistment incentives
 - BM, CS, OS, SK, YN
 - The 11 that are not LS/HD:
 - AME, AW, CTI, CTM, CTN, CTR, CTT, LN, MR, PR, SB
 - Most receive recruiting or reenlistment incentives
 - » Incentives may be preventing some from being LS/HD, yet some have ratios above 100
- Of the 14 officer designators:
 - 4 are predicted to be LS/HD: Special Warfare (113X), Info (160X), Supply (310X), CEC (510X)
 - 3 have ratios above 75 for all paygrades: Pilots (131X), NFO (132X), JAG (250X)

In this slide, we summarize our major findings regarding which skills are LS/HD. Clearly, there are more enlisted skills that are predicted to be LS/HD now or within the next 3 years than there are officer designators. The ratings with the lowest ratio are the Seabees: Builder (BU), Construction Electrician (CE), Construction Mechanic (CM), Engineering Aide (EA), Equipment Operator (EO), Steelworker (SW), and Utilitiesman (UT). (We did not estimate the ratio for the E9 Seabee ratings because there are so few in each.) Most paygrades in each of these ratings are predicted to be LS/HD now or within the next 3 years. One notable exception is E4 CMs, EAs, SWs, and UTs. Increased recruiting efforts for junior Seabees may be one reason for this finding.

In general, most recruiting/affiliation incentives are targeted at E4 or E5 paygrades, while no reenlistment incentives are available for paygrades E7 and above. Even so, many of the skills that we predict to be LS/HD now or in the future are in the more senior paygrades. For some skills, there are relatively few reservists at the senior ranks, and we have already noted our caveat about small sample sizes. This is not true, however, for all skills. For instance, 86 Storekeepers (SKs) in the E7 paygrade are currently mobilizable, and we predict their current worst case ratio is already at the threshold of 6. Further, 51 Operations Specialists (OSs) at the E7 paygrade are currently mobilizable, and we predict that their worst case ratio, currently at 15.2, will be below 6 by the first quarter of FY10.

Enlisting and retaining more reservists in junior paygrades might eventually prevent these more senior skills from becoming LS/HD, but promotions may not be timely enough to address near-term deficits. And some ratings—the five we note in this slide (BM, CS, OS, SK, and Yeoman (YN))—do not have any recruiting or reenlistment incentives at any paygrade.

We also indicate the 11 ratings that do not have any paygrade predicted to be LS/HD within the next 3 years. As we noted, incentives targeted at junior paygrades may be necessary to prevent senior paygrades from becoming LS/HD in the future. In addition, these incentives may be what has prevented a number of the skills from being LS/HD now or in the near future. Even so, our findings may indicate that there are some skills that no longer need the same level of incentives that they currently receive. For instance, E6s in the Cryptologic Technician–Maintenance (CTM) rating currently receive a tier 2 level Reenlistment/Extension Bonus, while we predict their current worst case ratio to be 273. Similarly, both recruiting and reenlistment incentives are available for E4s in the Sonar Technician (Surface) (STG) rating, while we predict their current worst case ratio to be 101. We acknowledge, however, that there may be some phenomena known to community managers that we are not capturing that require the current level of incentives, such as a large recent increase in mobilization requirements, or some of these skills may be fulfilling other Navy Reserve functions that we are not capturing with mobilization requirements; if so, incentives may be necessary to ensure a sufficient inventory to fulfill these other types of mission requirements.

As we note in the slide, there are only four officer designators that we predict are LS/HD now or that will be within the next 3 years. Conversely, there are a number of skills with very large worst case ratios. For instance, the current worst case ratios for O4 Pilots, O3 Naval Flight Officers (NFOs), and O4 Judge Advocate General's Corps (JAGs) are 159, 123, and 162, respectively. While higher ratios may be necessary to ensure a sufficient number of reservists at higher paygrades, all of the Pilot ratios through the O6 paygrade are currently above 100, all NFO ratios are above 84, and all JAG ratios are above 75. Again, there may be other reasons why there are so many reservists with these skills, but we suggest that their mobilization requirements in the past 6 years—since September 11th, 2001—may provide some guidance as to their future mobilization requirements.

Sensitivity Analysis: What Would Happen If....

- Recruiting/affiliation increased
 - Not practical at higher paygrades
 - Sanctuary limits mobilization after 16 years of active service
- Continuation increased
 - Rates are already very high for some skills
 - Higher rates would be very expensive
- Promotions were faster and more numerous
 - Only works if deficit is not at junior levels
- A 1-up/1-down paygrade strategy were used
 - Not practical if several paygrades are LS/HD

We turn now to our sensitivity analysis, in which we change one or more of the personnel metrics we have estimated to see what effect it would have on the ratio—now, and in the future.

A limited number of policies and incentives are both possible and practical. For instance, recruiting more reservists, regardless of the skill, is only possible primarily at the lower paygrades. In the enlisted ranks, and many of the unrestricted line designators, the Navy prefers to recruit untrained civilians and train and promote them through the ranks—a process that takes considerable time. Recruiting more senior personnel into the Reserve requires either lateral entry from the civilian sector, a practice the Navy has not embraced in general (see, for instance [4]), or incentivizing Active Component Servicemembers to affiliate. The latter option is also impractical, especially at more senior levels, for two reasons.

First, senior Servicemembers with relatively few years left until they reach the 20-year active duty retirement milestone would usually be unwilling to forgo the generous retirement benefits of an AC retirement for the reduced RC retirement benefits. For similar reasons, encouraging senior reservists to remain in SELRES has limited potential since many are close to, or have reached, the 20-year reserve retirement milestone.

Second, AC Servicemembers who do affiliate would, in general, be ineligible to be mobilized if they are close to the 16-year “Sanctuary” milestone.

Servicemembers in the Reserve are usually prohibited from being called to active duty at that milestone because, if they are and they remain on active duty until they reach 18 years of active duty, the Services must keep them on active duty until they reach the 20-year milestone and become eligible for AC retirement benefits, which is far more costly to DoD than a reserve retirement. Hence, increased recruitment (NPS and prior service (PS)) is most practical in the junior to mid-paygrades (E4–E5 for enlisted, O2–O3 for officers).

Even this option, particularly in terms of encouraging more AC affiliations, has limited potential. Almost every rating in appendix D that we predict is either now LS/HD or will be in the next 3 years also offers reenlistment incentives to AC Sailors [5]. For instance, EOs, which we estimate to have a ratio below 6 in paygrades E4, E5, E7, and E8, currently offer AC Sailors reenlisting in Zone A a level 2 SRB, and those in Zone B are eligible for a 1.5-level SRB.

Greater retention in mid-career grades may be possible with the use of larger incentives. The current dwell policy, however, may have a negative impact on continuation of reservists who are nearing the end of their dwell period, which would make it far more costly to maintain current levels of retention, in addition to increasing retention.

Other options are available, especially if the rating or designator is not LS/HD in most, or all, paygrades. For instance, if the skill is LS/HD only at more senior levels, hastening the pace of promotions is a possibility, although more so for enlisted than for officers. Faster promotions, however, reduce the experience of reservists at those paygrades with hastened promotions. Similarly, assigning reservists who are one paygrade above or below the requirement—a one-up/one-down strategy—is a possibility if the diminished capacity is in one, or at most two, paygrades. It also is not practical at the more senior paygrades, where there are often relatively few at the next highest or lowest rank. Both hastened promotions and one-up/one-down strategies, however, would most likely be only short-term patches, with more permanent solutions necessary for a more consistent, long-term, steady-state ratio of 6 or higher.

What Would Happen If— Continued

- Mobilization requirements decreased
 - Difficult to say “no”
 - Greater volunteerism has same effect on “worst” case ratio
 - Current dwell policy may decrease volunteerism
- Mobilizations were shorter
 - Doesn’t change the total number of man-years required
- The number not mobilizable decreased
 - Shortened training
 - Lateral entry of civilians with comparable skills (Seabees)

Other options are listed in this slide. For instance, one option is to reduce the number of mobilization requirements. One way this could be accomplished is to convert the mission to the Active Component. Reserve missions, in general, are intended to be short term, so it could be argued that sustained requirements for a particular reserve skill are more appropriate for the AC. A case in point is the Individual Augmentation (IA) requirements that were originally filled largely by reservists; they have been increasingly filled by Servicemembers in the AC. Even so, many of the same skills that are stressed in the RC, such as the Seabee and Intelligence Specialist (IS) ratings, are also stressed in the AC.

Another option for reducing the mission of a particular skill is to identify whether reservists with similar skills can be mobilized instead, perhaps with only minimal training. For instance, the training for the HM 8404 NEC, which is the skill that is required of many of the HMs serving with the Fleet Marine Force (FMF), is relatively short, so increasing the number of HMs with the 8404 NEC could be accomplished fairly quickly.

Another option to reduce the mission is to say “no” to a request for forces. We submit that this is the least desirable and perhaps the most difficult of all options.

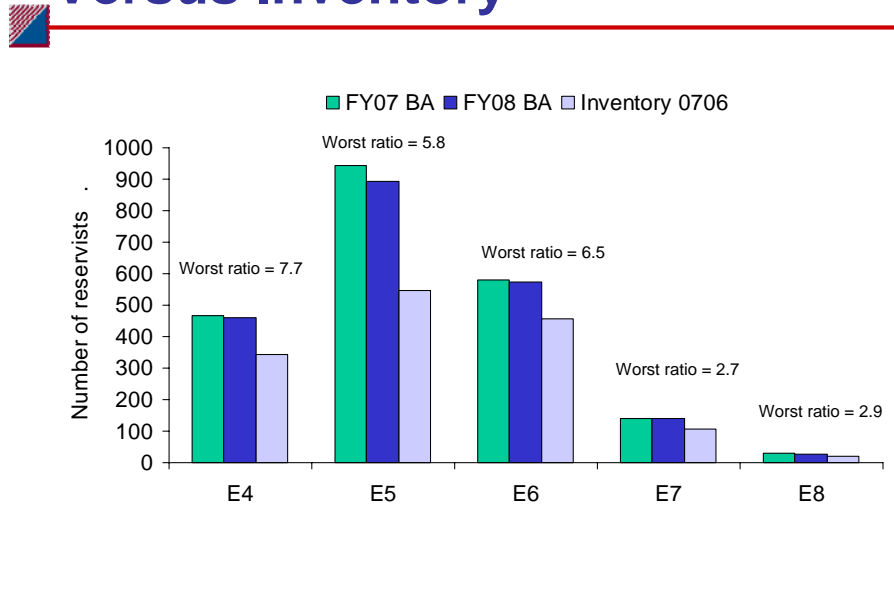
Encouraging greater volunteerism is also an option and has the same effect on our worst case ratio as a decrease in the mission. Again, however, we suggest that the current dwell policy, in which volunteer mobilizations count as dwell time, may have a negative impact on volunteerism. As a consequence, we strongly recommend that the Navy monitor continuation rates of previously mobilized reservists as they approach the end of their dwell time.

Reducing the time that a reservist is involuntarily mobilized would have little impact on the ratio, since the same number of man-years (the average number of months all reservists are mobilized in any particular year times the number mobilized that year) would still be required. Shorter mobilizations would result in shorter dwell periods, however, making previously mobilized reservists available earlier. This would not have any impact on the ratio, however, unless the continuation rates of previously mobilized reservists is lower (higher) than the continuation rate of never-mobilized reservists. If it was lower (higher), shorter mobilizations would actually decrease (increase) the number of mobilizable reservists.

Finally, it might be possible to increase the proportion of never-mobilized reservists that are mobilizable each quarter. For instance, note in appendix D that there are 17 ratings for which 20 percent or more of E4s are not mobilizable. In fact, over 50 percent of IS3s are not mobilizable. In some cases, a large proportion of reservists aren't mobilizable because they have long training pipelines, such as the ISs. For others, they are largely unmobilizable because they have yet to achieve the 84 days of active service that is required to be mobilized outside the continental U.S. (OCONUS). At mid-grades, many reservists are unmobilizable for medical or pregnancy reasons, while senior grade reservists are often unmobilizable because they are retiring. It would appear, then, that there are fewer options to significantly increase the mobilizable population of mid- and senior-level reservists, but it may be possible to increase the proportion of some reservists in junior grades who are mobilizable by either increasing the number of days on active duty for new recruits or by shortening training pipelines.

In addition to shortening the training itself, training could be shortened by recruiting civilians with training and experience in relevant fields—that is, lateral entry. For instance, the recent reduction in new housing starts across the nation may have increased the attractiveness of the Navy Reserve for unemployed or underemployed civilians in construction trades. These lateral entrants would still require Navy-specific training, and would have to fulfill the 84 days of active duty, but many would have the appropriate level of skills and experience to be recruited at mid-career grades. As we noted previously, however, the Navy makes little use of NPS lateral entry into either the AC or the RC.

BU Billets Authorized (BA) Versus Inventory

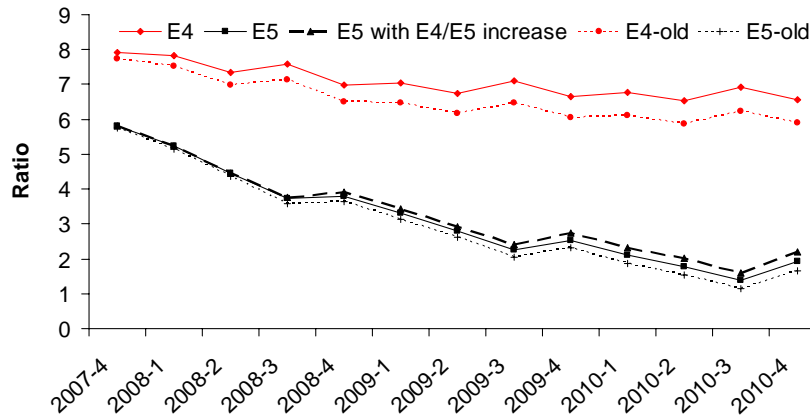


We illustrate a sensitivity analysis with the BU rating. Increasing recruiting is justified only if there are BA for more reservists. In this slide, we show that, in fact, there are gapped BU reserve billets. We plot the number of BA according to the September 2006 Total Force Manpower Management System (TFMMS). We include BA for FY07–08 to show that BA for all BUs, except E7s, decreased for FY08. Even so, manning for most paygrades is significantly below FY08 BA: E4s, 25 percent below; E5s, 38 percent below; E6s, 20 percent below; E7s, 23 percent below; and E8s, 30 percent below. For reference, we also include our estimate of the current worst ratio to show that the undermanning of BUs is a contributing factor to their LS/HD status.

To remedy the E5 deficit with recruiting alone, the Navy would have to encourage 86 AC E5s to affiliate each quarter for the next year, or to recruit other Navy Veterans (NAVETs) not currently in the AC to enlist in the Reserve (recall that at mid-career paygrades, the Navy usually recruits only PS). To put this into perspective, roughly 60 E5 BUs affiliated with SELRES in the 12-month period ending in June 2007.

To encourage AC BUs to affiliate, while not making the Total Force worse off, the AC must have a surplus of Servicemembers in these paygrades, which is not the case with Seabees. As a consequence, increased affiliation is not a viable solution for mid- and senior-level BUs, but increasing recruitment of NPS into the BU rating, and incentivizing first-term AC Sailors to affiliate and convert to the BU rating, may be at least a partial solution. As evidence of the first strategy, the October 2007 CNRC Monthly Production Briefing noted that 51 percent of Reserve New Accession Training (NAT) recruits go into Seabee ratings.

Effect of 10% Increase in Recruiting on BU Ratio



In this slide, we show how the predicted ratio would change if there were a 10-percent (not percentage-point) increase in the quarterly number of gains to the BU rating. These gains are regardless of source; they could be NPS or PS.

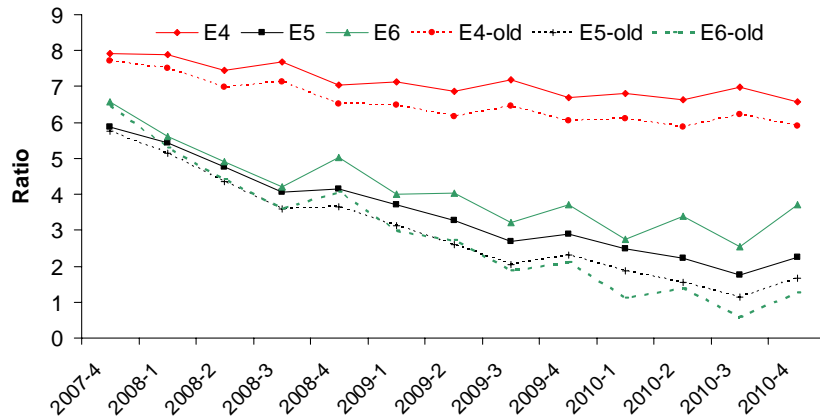
The difference between the solid and broken red lines illustrates the effect of a 10-percent increase in the recruitment of BU3s on the BU3 ratio. The improvement in the ratio is minimal; we predict that the ratio in the fourth quarter of FY10 would be just 0.6 point higher. Even so, it would be enough of an increase to push the ratio above the threshold of 6 for the next 3 years.

An increase in the recruitment of BU3s would eventually increase the number of BU2s, as these recruits promote. Assuming no change in the continuation rate, promotion rate, and mobilization requirements, we show that increasing recruitment of both BU3s and BU2s by 10 percent would have only a minimal impact on the ratio for BU2s. We first draw the effect of such an increase on the recruitment of BU2s only with the solid black line. That recruitment effort moves the ratio up only slightly from the lower dotted black line, which represents our predictions under current conditions.

The upper broken black line shows what would happen to the BU2 ratio if recruiting increased 10 percent for BU3s and BU2s. The effect of the increased recruitment of BU3s is delayed because of the time it takes for them to be promoted to E5.

Combined, these increases do little to improve the BU2 ratio, which remains well below 6. For reference, if the recruitment of BU3s and BU2s increased by 10 percent, we predict that by the fourth quarter of FY10 the BU2 ratio would increase by 0.5—from the present prediction of 1.7 to 2.2.

Effect of 3% Increase in Continuation on BU Ratio



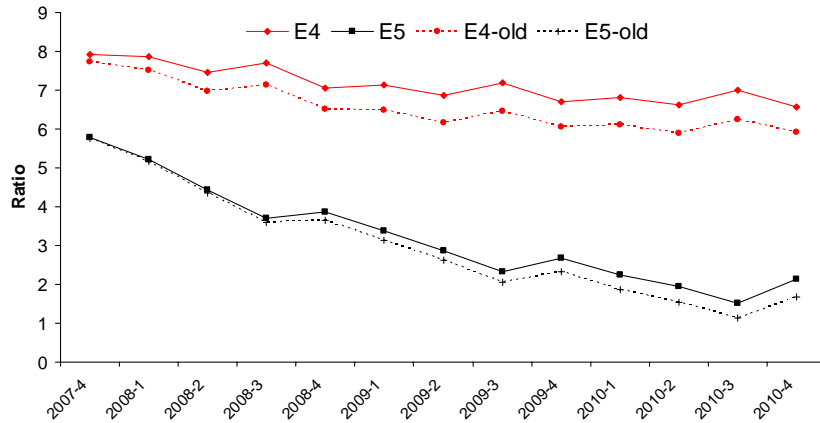
Does not include cumulative effect of higher continuation of lower paygrades on higher paygrades

We now illustrate what would happen if quarterly continuation rates increased 3 percent. Note that a 3-percent increase each quarter results in a 12.6-percent annual increase in continuation (1.03 to the fourth power is 1.126). This is actually a fairly large increase and would most likely be fairly costly, in terms of reenlistment incentives. In addition, the higher the continuation rate, the larger the change. So, for instance, our average annual continuation rates for BU3, BU2, and BU1 are 60.6, 76.6, and 76.1 percent, respectively. A 3-percent increase in quarterly continuation, therefore, represents a 7.6-percentage-point increase in the annual continuation rate of BU3s and a 9.6-percentage-point increase for both BU2s and BU1s.

In this slide, we isolate the effect of an increase in the continuation rate of each paygrade, holding the continuation of other paygrades constant. As a result, this does not illustrate the effect of this higher continuation on higher paygrades because the additional reservists who continue promote through the ranks.

For instance, if only BU2 continuation rates increased, by the fourth quarter of FY10, the predicted ratio would increase by 0.6—from 1.7 to 2.2. The increase is larger for BU1s because fewer BU1s promote each quarter, relative to BU2s. Even so, the increased continuation is not sufficient to keep either the BU2 or BU1 ratio above 6 throughout the next 3 years.

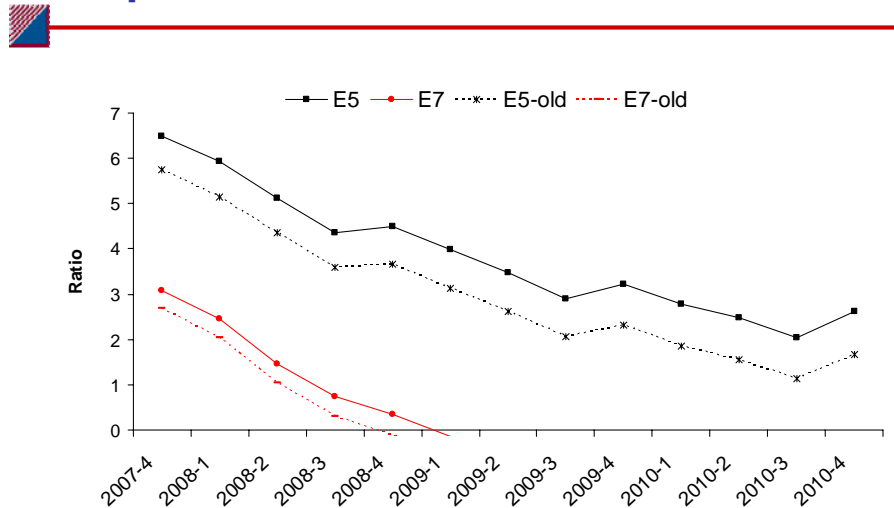
Effect of 3% Increase in Continuation of BU3 Only



In this slide, we illustrate the effect of higher BU3 continuation on the BU3 ratio, as well as its effect on the BU2 ratio, the latter capturing the effect as retained BU3s promote to higher paygrades. The red solid and broken lines are the same as the previous slide, for comparison. We predict that by the fourth quarter of FY10 the ratio for BU3s would increase 0.7, from 5.9 to 6.6.

Eventually, these additional BU3s will promote to BU2, but the effects are small and do not begin for several quarters. In particular, we predict that a 3-percent increase in the quarterly retention of BU3s would increase the ratio of BU2s in the fourth quarter of FY10 by 0.5, from 1.7 to 2.1. Again, this increase in BU3 continuation is not sufficient to raise the BU2 ratio to the threshold of 6 and would also most likely be fairly expensive.

Effect of 10% Decrease in Mobilization Requirements on BU Ratio

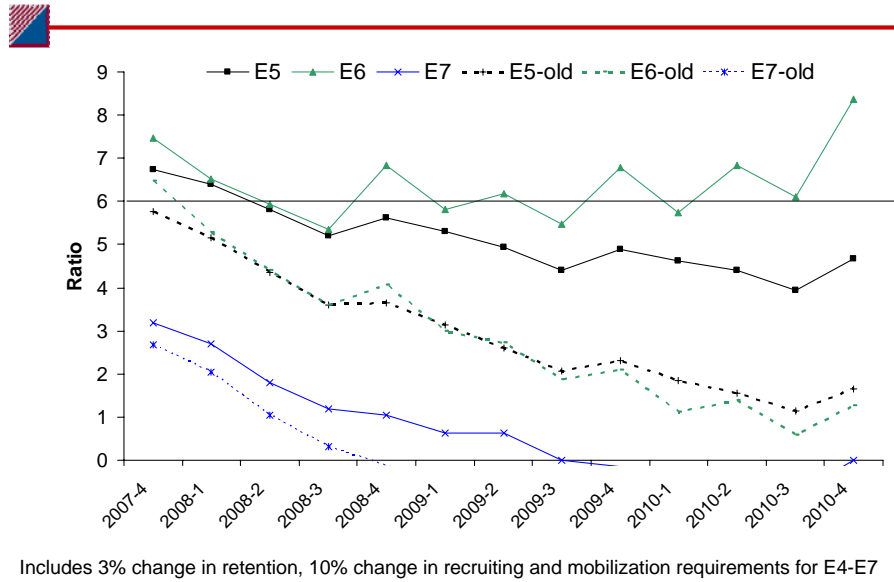


Next we examine the effect of a 10-percent decrease in the quarterly mobilization requirements of BU2s and Chief Builders (BUCs) on the ratio of each. Recall that the total numbers of involuntary and voluntary mobilization requirements of BU2s was 215 and 60, respectively, and 46 and 11, respectively, for BUCs. Recall also that we assumed a constant quarterly requirement and that our worst case ratio included both voluntary and involuntary mobilizations. Our constant quarterly requirement, therefore, is 34.4 BU2s and 7.1 BUCs. A 10-percent reduction in each results in our new estimate of 31 BU2 and 6.4 BUC newly mobilized or remobilized reservists each quarter.

The new worst case ratios for BU2s and BUCs, after we apply the new reduced mobilization requirements, are illustrated in the solid black and red lines, respectively. The broken lines show the original estimates.

Again, the reductions in requirements for each of these paygrades are not sufficient to raise the ratio of either skill to the threshold of 6 throughout the next 3 years. In fact, it provides only one additional quarter above 6 for the BU2s.

Total Effect on BU



In this slide, we combine all of the changes that we described in the previous slides for paygrades E4 through E7, including a 3-percent increase in the quarterly continuation of each paygrade, a 10-percent increase in recruiting, and a 10-percent decrease in mobilization requirements. These predicted changes take into account the effect of changes in lower paygrades on their own ratio, as well as the ratio at higher paygrades.

With all of these changes, BUC is the only skill for which the ratio increases to 6 by the end of the 3-year period. We note, however, that each of these changes individually would most likely take considerable time—and funds—to achieve.

These results are an indication that perhaps a threshold of 6 is too low, if the ratio is meant to be used as an early warning sign that a skill is at risk for becoming LS/HD. Implementing most remedies, such as increasing recruiting or continuation, would take time, and skills that have a ratio that are in rapid decline will not have sufficient time to recover. If, however, the predicted decline in the ratio is relatively slow, a threshold of 6 may be appropriate. As we noted previously, the right threshold to determine when a skill is LS/HD is most likely a function of rank and skill.

Recommendations



- Conduct sensitivity analyses on more LS/HD skills
 - Calculate cost estimates
- Determine the right “early warning” LS/HD ratio
- Update ratios on a quarterly basis
- Determine effect of recent dwell policy on continuation
- Analyze individual skills in more depth:
 - Why is retention in some skills so low?
 - Is there some way to shorten the training path or get more active duty time for new recruits?
 - Are incentives working?
 - Are different ones required?
- Are Billets Authorized/mobilization requirements set correctly?
 - O4 Pilot ratio is 159
 - AW2 ratio is 373
- Improve mobilization data captured

We have conducted a preliminary analysis of LS/HD skills in this study; we believe that more analysis is necessary. For instance, for illustration purposes, we conducted sensitivity analysis on just one rating, but there are many more ratings and a few designators that our analysis indicates are, or will soon become, LS/HD. Not all of these skills have ratios as low as the BU; some of the options we explored for the BUs might be effective for the skills with slightly higher ratios or with ratios that are predicted to decline more gradually. Therefore, we recommend that the Navy identify skills and strategies for additional sensitivity analysis. Cost estimates of various options could also be generated, which would be helpful in determining which strategies have the potential to be more cost-effective.

More analysis is also required to determine what the right LS/HD threshold should be. A uniform metric that could be applied to all skills has benefits, but it may not be appropriate. Further analysis may indicate that a uniform threshold is appropriate by paygrade and across ratings and designators, or perhaps the rate of the decline needs to be taken into account along with the value of the ratio to establish a threshold.

Because any of the metrics that are integral to our predictions could experience significant changes in a short period of time, we recommend that the Navy update the ratio at the end of each quarter, using 8-quarter moving averages that drop the values for the oldest quarter and add values for the newest quarter.

Or, if some of the parameters of the model have experienced significant changes, and these changes are expected to persist (such as a large increase in mobilization requirements), it may be more appropriate to estimate the ratio based on a 4-quarter, vice an 8-quarter, average. Whether based on 4 or 8 quarters, the new ratios should be examined to determine whether there have been any significant changes in the rate of change of the ratio for each skill.

Quarterly updates are one way to ensure that Navy leadership is monitoring the ability of the Reserve to continue to meet all of its various missions, and to provide ample time to address potential shortages in the future.

The recent change in dwell policy may have a significant impact on the retention of all reservists, including those never mobilized as well as those currently in dwell. It may also have an impact on recruiting. Therefore, we strongly urge the Navy to examine whether reserve continuation or recruiting has changed since the new policy went into effect.

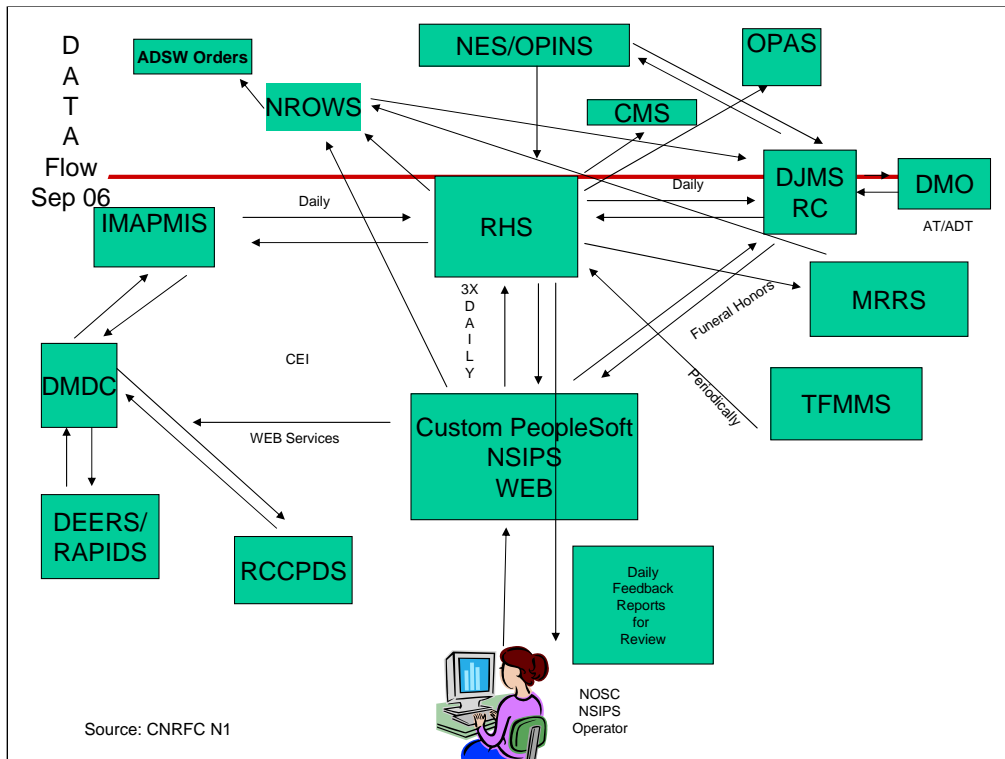
While our ratio is intended to be a standard metric for all skills, we observed in the course of our work that different ratings experience very different phenomena. Some appeared to have unusual spikes in promotions in just 1 of the 8 quarters under study. Others had unusually low continuation in just 1 or 2 quarters, while others had consistently high numbers of reservists who weren't mobilizable. Understanding the different requirements and factors that influence each skill would be useful in developing strategies to increase the capacity of LS/HD skills to meet mission. Hence, we recommend that the Navy analyze more completely the skills we have identified as LS/HD to determine why some of these skills are outliers in terms of a number of these metrics, and what different strategies these skills may require. Further, given our findings that some skills with high ratios have incentives, while others that are LS/HD do not, we recommend that the Navy look at the incentives currently offered to reservists and determine whether they are necessary, whether they are at the right level, and whether they are effective in general. We are not aware of any current study, for instance, of the recruiting effects of enlistment and affiliation incentives, and there are very few recent studies of the effect of reenlistment bonuses on SELRES continuation behavior [see, for instance [6]]. Might other types of incentives be necessary, such as Assignment Incentive Pay (AIP)? Are there other recruiting markets for reservists with the right skills, such as lateral entry, that we noted previously? Or would different mobilization policies be more effective?

Our findings also indicate that the current BA and/or mobilization requirements may need to be reexamined. If in the past 6 years a particular skill has been mobilized so infrequently that it results in a current ratio of 200 or more mobilizable reservists for every mobilization requirement, should manning be reduced in that skill? Or are other, nonmobilization requirements fairly large for these skills? Conversely, perhaps those with low ratios, implying a fairly high rate of use, require an increase in BA.

Finally, we strongly recommend that the Navy create variables within RHS that indicate when a reservist is mobilized for training, is mobilized but on annual leave, or is a volunteer. A variable indicating the date that the reservist's dwell period expires would also be beneficial. Future analysis, as well as the Navy's current ability to identify mobilizable assets, is hindered by the lack of unambiguous and more detailed data.

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Appendix A: Reserve Data Flow



- ADSW: Active Duty for Special Work
- CMS: Content Management System
- CTS: Contingency Tracking System
- DEERS: Defense Enrollment Eligibility Reporting System
- DJMS: Defense Joint MilPay System
- DMDC: Defense Manpower Data Center
- DMO: Defense MilPay Office
- IMAPMIS: Inactive Manpower and Personnel Management Information System
- MRRS: Medical Readiness Reporting System
- NES: Navy Enlisted Personnel System
- NOSC: Navy Operational Support Center
- NROWS: Navy Reserve Order Writing System
- NSIPS: Navy Standard Integrated Personnel System
- OPAS: Officer Promotion Administration System
- OPINS: Officer Personnel Information System
- RHS: Reserve Headquarters Support
- TFMMS: Total Force Manpower Management System

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Appendix B: Errors in Mobilization Data

The authority provided in 10 USC 12302 allows the Services to involuntarily mobilize reservists. While mobilized, they are on active duty and are added to the Navy's Active Component databases (Navy Enlisted Personnel System (NES) and Officer Personnel Information System (OPINS)—see appendix A). Their status as involuntarily mobilized is indicated in these systems with a "J" value in the Special Program Indicator code (regular AC Servicemembers have a blank in this field).

Reservists may be *voluntarily* mobilized because of the authority provided in 10 USC 12301 (d). These reservists are also entered into NES/OPINS, but they are considered to be Active Duty for Special Work (ADSW), rather than mobilized. They are currently differentiated by an "N" in the SPI code in NES/OPINS. The CTS counts a reservist as mobilized if he or she has either a "J" or an "N" in the SPI code.

The Navy's policy has been to involuntarily mobilize reservists the first time they are mobilized. Reservists who have been involuntarily mobilized for 12 months, the maximum allowed by DoD, may extend on active duty voluntarily. These reservists will have a change in the SPI code from a "J" to an "N" at the time that they extend.

The IMS code in IMAPMIS also indicates when a reservist has been mobilized. These reservists will have any of a number of codes in the IMS field, indicating, for instance, that they have been contacted for mobilization and are en route for in-processing (RC1), gained to active duty (RM1), or deactivated and returned to billet (RD2). A code of RD2 will remain in the reservist's record indefinitely, and it serves as a flag that the reservist has been mobilized. Recent changes in policies, however, have made this impractical. For instance, reservists may be mobilized for training and returned to their billet, making them eligible to be involuntarily remobilized. In addition, previously mobilized reservists who have passed their dwell time may also be remobilized. We are not aware of any solution for identifying reservists who are mobilized for training, so it will be difficult for the Navy to keep track of the entire population of reservists who may be mobilized. Recently, however, a new IMS code (Redeployed Dwell Available (RDA)) has been added that does indicate that the reservist may now be remobilized because of expiration of dwell.

The MAS code keeps track of reservists who are on ADSW. There are many categories of ADSW, but only one refers to those voluntarily mobilized under 10 USC 12301 (d). Reservists on ADSW are identified with a MAS code of OWS.

Thus, there are three different sources of information regarding which members are involuntarily mobilized (a “J” SPI code in NES/OPINS, the CTS, and the IMS variable in IMA PMIS) and two sources of information regarding which members are on ADSW—both voluntarily mobilized and all other ADSW (numerous SPI codes in NES/OPINS and the MAS code in IMA PMIS).

Ideally, all sources should agree as to the status of the reservist, but this is not the case. For instance, in March 2007, the CTS indicated that there were 5,061 enlisted SELRES who were mobilized. Of these, 103 were not mobilized according to the IMS code on IMA PMIS, and 71 were not mobilized according to the SPI code on the Enlisted Master File (EMF). There were an additional 167 SELRES that the EMF indicated were mobilized that the CTS did not, and 22 that the IMS code indicated were mobilized.

Appendix C: IMS and MAS Codes To Determine Ineligibility for Mobilization

Code	Description
MAS	
AAP	Administrative action pending that would preclude mobilization
AS1	One-year deferment
MP1	First trimester of pregnancy
MPC	Second or third trimester of pregnancy
MPP	Nondeployable mother, child less than 4 months old, or postpartum convalescence
MPQ	Temporarily not physically qualified for mobilization
TBH	NPS Basic/Not completed IADT and Hospital Corpsman A-School
TBX	Not completed IADT
TMS	Attending authorized medical/dental school
TRL	Attending validated religious leader training
TRP	RESCORE-R/Designator or rate conversion training
TS1	Two-year deferment
THS	High school student less than 20 years old
IMS	
DJP	Member not coded for mobilization
DMC	Nondeployable mother, child less than 4 months old, or on 6-week postpartum convalescence
DMT	Medical deferments (temporary)
DTC	RAMP/RESCORE/Designator/Rate conversion training depending on BUPERS guidance
DTM	Attending authorized medical/dental school depending on BUPERS guidance
DTX	Not completed Basic/Equivalent training depending on BUPERS guidance
EAS	ADSEP Drug/Alcohol abuse
EAK	ADSEP key employee status
EAO	Not extending obligated service (EOS)
EAP	ADSEP Unsatisfactory participation in the Ready Reserve
EAR	Processing for retirement
EJC	Enlisted in the Active Component
EMN	Not physically qualified for mobilization
EMP	Pregnancy depending on BUPERS guidance
HPG	Personal hardship exemption granted by SECNAV
RDD	Member declared a deserter per MILSPERMAN 3430100
RU2	Unable to contact, unlocatable/stopped trying
RUA	Contacted (officially), unauthorized absence (UA)

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Appendix D: Enlisted Metrics

	Ratio		When worst ratio drops below:			Current # mobilizable	Total 2-year mobilization requirements		ADSW	03/07-06/07 Never-mobilized quarterly retention (%)	Quarterly average un-mobilizable (%)	EB	Reenlistment incentive
	Best	Worst	6	5	4		In-voluntary	Voluntary					
AG													
E5	65.6	49.0				30	3	1	1	89.3	11.1		2
E6	349.3	174.2				43	1	1	8	92.5	6.8		
E7	69.0	22.3				10	1	2	2	100	4.2		
E8	24.5	24.5	FY09 Q2	FY09 Q3	FY10 Q2	3	1	0		100	2.4		
AME													
E4	85.9	85.9				12	1	0		88.9	3.1		1
E5	220.3	146.5				55	2	1		90.6	1.6		
E6	42.9	42.9				20	4	0	1	100	4.6		
E7	65.6	65.6				8	1	0		75	0.5		
AT												PS	
E4	53.5	40.5				149	19	6	2	86.8	13.3		
E5	66.9	57.6				214	25	4	6	87.8	5.8		
E6	70.5	48.5				78	9	4	8	92.3	2.2		1
E7	28.1	28.1	FY09 Q4	FY10 Q1	FY10 Q1	11	3	0	1	71.4	4.6		
E8	43.9	21.5	FY09 Q2	FY09 Q3	FY09 Q3	4	1	1	1	80	0		
AW													See note
E5	373.7	373.7				51	1	0	1	93	4.8		1
E6	147.3	117.7				72	4	1	4	94.5	2.6		
E7	181.3	90.1				24	1	1	3	91.3	1		
BM													
E4	30.3	25.7				375	85	15	5	88.4	21.7		
E5	16.4	12.1	FY10 Q3			395	192	63	12	88.5	6.4		
E6	22.4	15.5				262	94	39	7	93.2	4.3		
E7	17.4	12.0	FY09 Q4	FY10 Q1	FY10 Q3	97	41	17	6	97	4		
E8	12.7	6.1	FY08 Q1	FY08 Q1	FY08 Q2	25	14	13	5	93.8	6		
E9	38.6	18.8	FY10 Q2	FY10 Q2		7	1	1	1	100	8.3		
BU												NAT, PS	
E4	8.4	7.7	FY10 Q2			223	149	12	2	87.8	2		1
E5	7.6	5.8	NOW	FY08 Q2	FY08 Q3	216	215	60	4	92.4	8.3		1
E6	9.2	6.5	FY08 Q1	FY08 Q2	FY08 Q3	135	124	46	3	95.9	5.5		1
E7	3.6	2.7	NOW	NOW	NOW	25	46	11	1	95	4.2		
E8	6.0	2.9	NOW	NOW	NOW	5	5	4	2	100	4.6		
CE												NAT, PS	
E4	8.8	8.0	FY10 Q3			100	77	7		85.7	18.4		1
E5	9.4	7.4	FY08 Q2	FY09 Q2	FY09 Q3	138	116	29		91.1	7.6		1
E6	12.8	8.2	FY09 Q1	FY09 Q3	FY10 Q3	90	58	29		94	4.7		3
E7	3.9	3.2	NOW	NOW	NOW	6	12	2		71.4	4.1		
E8	20.4	11.9	FY09 Q3	FY09 Q3	FY09 Q4	9	3	2		100	2.2		
CM												NAT, PS	
E4	10.6	9.8				90	57	4		90	13.8		1
E5	6.9	4.6	NOW	NOW	FY08 Q1	144	141	58	1	91.3	7		1
E6	12.6	6.9	FY08 Q1	FY08 Q2	FY08 Q3	107	68	49	3	93.8	5.8		3
E7	9.5	5.0	NOW	NOW	FY08 Q1	20	17	13	1	87.5	4.8		
E8	19.0	5.7	NOW	FY08 Q1	FY08 Q2	5	2	4		100	4		

NAT:New Accession Training

PS: Prior Service

Enlistment Bonus (EB) is based on [7]

Reenlistment/Extension Bonus tier level is based on [8]

AWs with certain NECs receive tier 1 or 3 level Reenlistment/Extension Bonus

Appendix D: Enlisted Metrics—continued

	Ratio		When worst ratio drops below:			Current # mobilizable	Total 2-year mobilization requirements		ADSW	03/07-06/07 Never-mobilized quarterly retention (%)	Quarterly average un-mobilizable (%)	EB	Reenlistment incentive
	Best	Worst	6	5	4		In-voluntary	Voluntary					
CS													
E4	24.3	20.0				300	87	18	7	88	19.2		
E5	20.8	15.9				189	66	19		95.5	6.4		
E6	19.0	14.1	FY09 Q4	FY10 Q1	FY10 Q2	101	39	13	7	92.7	7.6		
E7	23.5	12.6	FY09 Q1	FY09 Q2	FY09 Q2	16	5	4	2	87.5	3.9		
E8	13.5	13.5	FY09 Q4	FY10 Q1	FY10 Q2	3	2	0	1	100	1.8		
CTI												PS	See note
E4	N/A	69.2				15	0	1		82.4	44.4		2
E5	276.2	276.2				42	1	0	1	97.8	14.9		2
E6	165.4	165.4				67	3	0	1	98.3	6.3		2
E7	109.0	109.0				11	1	0	1	83.3	3.7		
E8	40.4	40.4				6	1	0	1	100	5.7		
CTM												PS	
E4	16.9	16.9				2	1	0		100	26.4		
E6	273.2	273.2				37	1	0	1	94.4	8.9		2
E7	50.6	50.6				14	2	0		100	6.3		
E8	N/A	24.3				4	0	1		100	1.7		
CTN												PS	
E5	55.3	55.3				11	2	0		100	24.3		2
E6	172.0	172.0				49	3	0	3	97.5	9.3		2
CTR												PS	
E4	99.1	99.1				9	1	0		91.7	6.3		
E5	53.6	53.6				62	7	0		96.4	9.9		2
E6	33.6	31.3				57	14	1	2	91.1	6.9		2
E7	36.4	23.9				8	2	1	7	100	5.7		
E8	27.4	27.4				4	1	0	2	100	6.7		
CTT												PS	
E4	77.2	38.2				10	1	1		75	20.7		
E5	72.3	43.0				30	3	3	1	86.7	12.5		2
E6	73.0	54.5				56	6	2	2	90	8		2
E7	120.0	39.4				17	1	2	1	90	2.9		
EA												NAT, PS	
E4	43.6	43.6				12	1	0		100	30.8		2
E5	4.5	4.4	NOW	NOW	FY08 Q1	31	43	1		96.2	10.3		2
E6	7.1	5.1	NOW	FY08 Q1	FY08 Q2	20	24	8		84.2	6		3
E7	3.6	2.1	NOW	NOW	NOW	6	10	5	2	100	2.4		
E8	-1.0	-1.0	NOW	NOW	NOW	0	3	0		0	0.6		
EM												PS	
E4	27.4	25.1				84	23	2		87.5	12.9		
E5	26.0	23.2				125	34	4	1	91.3	7.8		2
E6	59.6	55.5				120	14	1	1	93.6	5.8		2
E9	6.7	6.7	FY08 Q3	FY08 Q4	FY09 Q4	1	1	0		100	4.2		

CTI SRB: Some NECs receive tier 1 level reenlistment incentive

Appendix D: Enlisted Metrics—continued

	Ratio		When worst ratio drops below:			Total 2-year mobilization requirements			ADSW	03/07-06/07 Never-mobilized quarterly retention (%)	Quarterly average un-mobilizable (%)	EB	Reenlistment incentive
	Best	Worst	6	5	4	Current # mobilizable	In-voluntary	Voluntary					
EN													
E4	55.5	43.4				114	11	3	1	87.9	22.2		
E5	36.7	27.6				221	47	15	4	91.9	6.1		
E6	34.2	23.6				61	14	6	2	90.4	5.5		
E7	21.8	10.4	FY08 Q3	FY09 Q2	FY09 Q2	14	6	6	2	92.9	4		
E8	20.3	13.2	FY09 Q4	FY09 Q3	FY10 Q1	7	2	1		100	0.7		
EO												NAT, PS	
E4	5.8	5.2	NOW	FY08 Q1	FY08 Q2	131	191	20	1	89.1	13.8		1
E5	7.6	5.4	NOW	FY08 Q1	FY08 Q2	226	204	70	1	94.8	6		3
E6	12.8	7.8	FY08 Q2	FY08 Q3	FY09 Q1	233	143	80	5	93.9	5.3		3
E7	8.8	5.1	NOW	FY08 Q1	FY08 Q1	36	30	18	3	90.9	4.3		
E8	3.6	2.5	NOW	NOW	NOW	4	9	3		66.7	4.3		
ET												PS	
E4	49.4	49.4				103	12	0	3	91.2	28		2
E5	42.4	35.2				364	65	13	7	93.8	7.5		
E6	45.3	28.6				244	39	22	5	93.8	5.3		3
E7	29.9	19.6	FY10 Q3	FY10 Q3		65	18	9	3	94.1	4.7		
E8	25.5	25.5				6	2	0	1	100	0		
E9	9.3	9.3				3	3	0		0.5	4.2		
GM												PS	
E4	26.1	17.4				90	23	11	1	85.7	14.1		2
E5	15.4	10.1	FY10 Q3			193	94	45	4	88.6	5.2		2
E6	26.9	10.4	FY09 Q2	FY09 Q4	FY10 Q2	109	33	48	3	93.2	3.8		
E7	36.8	13.2	FY10 Q3			31	6	10	2	94.4	4		
E8	N/A	7.0	FY08 Q1	FY08 Q1	FY08 Q1	1	0	1		N/A	0		
E9	N/A	-1.0	NOW	NOW	NOW	1	0	2		100	0		
HM-8404												NAT, PS	
E4	11.2	9.1				218	112	24	3	89.2	19		1
E5	132.9	20.6				211	73	68	9	93.2	7.7		1
E6	31.5	12.5				93	24	34	3	88.9	6.9		1
E7	38.7	10.4				40	8	20	2	84.6	3.8		
E8	23.8	11.4	FY08 Q3	FY09 Q2	FY09 Q2	13	4	4		100	4.9		
E9	43.7	43.7				6	1	0		100	2.4		
HT												PS	
E4	28.9	27.2				85	17	1		93.7	24.3		2
E5	27.4	19.6				123	34	13	1	95	5.2		2
E6	26.9	24.7				97	23	2	2	90.8	3.8		2
E7	47.4	23.2	FY10 Q3	FY10 Q3	FY10 Q4	10	2	2		72.7	2.8		
E8	13.4	13.4	FY10 Q2	FY10 Q2		3	1	0		100	3.6		
E9	6.8	1.6	NOW	NOW	NOW	1	1	2		100	3.1		
IS												NAT, PS	
E4	15.0	15.0				132	32	0	5	95.5	52.9		1
E5	7.5	7.3	FY08 Q3	FY09 Q1	FY10 Q1	215	184	5	30	91.4	19.4		1
E6	9.4	7.9	FY08 Q3	FY09 Q1	FY09 Q2	207	180	31	24	91.4	8.5		3
E7	15.0	10.9	FY09 Q2	FY09 Q3	FY09 Q4	59	29	10	7	97.4	5.7		
E8	37.5	15.5	FY09 Q2	FY10 Q1	FY10 Q1	14	3	4	1	85.7	5.1		
E9	27.7	16.3	FY10 Q1	FY10 Q2	FY10 Q3	9	3	2	3	90	6.3		

HM-8404 includes HMs with an 8404 Primary or Secondary NEC

Appendix D: Enlisted Metrics—continued

	Ratio		When worst ratio drops below:			Total 2-year mobilization requirements			03/07-06/07 Never-mobilized quarterly retention (%)	Quarterly average un-mobilizable (%)	EB	Reenlistment i+N50nce ntive
	Best	Worst	6	5	4	Current # mobilizable	In-voluntary	Voluntary				
IT												
E4	34.4	26.6				301	60	17	8	88.4	19.1	
E5	47.7	37.0				617	95	27	24	91.5	7.9	
E6	39.7	30.2				356	69	21	23	94.1	6.9	
E7	44.7	35.1				98	15	4	10	94.7	5.4	
E8	20.3	13.2	FY10 Q1	FY10 Q1	FY10 Q3	11	4	2		87.5	6.1	
E9	13.0	13.0	FY09 Q3	FY09 Q3	FY09 Q4	3	2	0		67	10.1	
LN												PS
E4	36.3	36.3				5	1	0		71.3	37	
E5	40.8	40.8				47	9	0	6	90	11.7	3
E6	47.3	37.7				54	8	2	4	96.3	12.3	
E7	41.8	41.8				21	3	0	3	94.1	4.6	
E8	35.9	35.9				5	1	0		100	6.7	
MA												NAT, PS
E4	13.9	12.4				267	91	10		94.9	34.4	1
E5	13.7	10.7				467	209	55		95	12.6	1
E6	33.5	16.8				334	73	69		95.9	5.8	2
E7	25.0	7.9	FY08 Q2	FY08 Q3	FY08 Q4	42	13	25		85.7	5.1	
E8	35.6	5.2	NOW	FY08 Q1	FY08 Q1	9	1	5		100	12.5	
E9	N/A	14.9				2	0	1		100	0.4	
MM												
E4	37.6	27.5				133	28	10	1	83.8	9.2	
E5	39.6	30.3				145	27	8		88.4	7.2	2
E6	40.8	33.0				149	26	6	1	92.9	3.2	2
E7	26.5	16.5	FY09 Q3	FY09 Q4	FY10 Q1	22	7	4	1	86.4	2.7	
E8	20.9	13.6				5	2	1	1	100	3.7	
E9	7.0	7.0	FY08 Q2	FY08 Q3	FY08 Q3	1	1	0		100	0	
MN												
E4	42.0	31.3				23	3	1		78.3	23.9	2
E5	41.9	33.4				40	8	2		95	3.8	2
E6	78.9	78.9				31	3	0		100	3.9	
E7	N/A	32.2				10	0	2		100	0.3	
E9	4.4	4.4	NOW	NOW	FY08 Q1	1	2	0		100	4.2	
MR												
E4	11.4	11.4				20	13	0		90.5	20.8	
E5	31.4	22.7				36	11	4	2	95.4	6.2	
E6	41.0	30.5				44	6	2		96.6	6.2	2
E7	8.9	8.9				1	1	0		100	3.3	
E8	8.1	8.1				1	1	0		100	0	
ND												PS
E4	8.8	4.0	NOW	NOW	FY08 Q1	1	1	1		100	19.6	1
E5	73.1	73.1				7	1	0		87.5	5.8	1
E6	40.2	26.5				19	4	2		100	3.7	1
E7	34.4	13.2				9	2	3		100	3.6	
E8	16.9	16.9				1	1	0		0.5	5.9	
E9	N/A	-1.0	NOW	NOW	NOW	1	0	1		N/A	N/A	

Appendix D: Enlisted Metrics—continued

	Ratio		When worst ratio drops below:			Total 2-year mobilization requirements			03/07-06/07 Never-mobilized quarterly retention (%)	Quarterly average un-mobilizable (%)	EB	Reenlistment incentive
	Best	Worst	6	5	4	Current # mobilizable	In-voluntary	Voluntary				
OS											PS	
E4	33.5	30.6				201	32	3	1	89.5	22.8	
E5	17.2	14.0				254	102	22	5	90.7	8.7	
E6	66.0	36.4				202	24	19	9	98.8	4.1	
E7	21.8	15.2	FY10 Q1	FY10 Q2	FY10 Q3	51	17	7	1	96.9	4.5	
E8	14.9	13.0	FY09 Q1	FY09 Q1	FY09 Q2	15	7	1		100	7.4	
PR												
E4	51.9	51.9				14	2	0		85.7	5.3	2
E5	79.7	59.6				30	3	1	3	82	5.1	
E6	50.6	50.6				16	2	0	3	100	3.4	
QM												
E4	27.3	22.9				98	22	4	1	91.2	14.9	
E5	27.9	19.5				87	22	9	1	90.2	6.8	
E6	38.8	23.9				50	10	6	3	86.1	5.4	
E7	28.9	17.7	FY10 Q3	FY10 Q4		17	5	3	3	91.7	1.6	
E8	N/A	21.6	FY10 Q4			3	0	1	1	100	6	
E9	-1.0	-1.0	NOW	NOW	NOW	0	1	0	1	N/A	0	
RP											PS	See note
E4	12.5	10.1				34	18	4	2	87.9	14	2
E5	23.8	14.8				24	7	4	4	86.7	8.7	
E6	35.8	14.8				12	3	4	2	71.4	4.5	
E7	9.7	9.7	FY08 Q3	FY08 Q3	FY08 Q4	3	2	0	2	100	5.4	
E8	N/A	15.0	FY10 Q2	FY10 Q3	FY10 Q4	2	0	1	2	100	0	
SB											PS	
E5	10.4	10.4				5	4	0		100	5.2	1
E6	15.8	10.2				8	4	2		100	3.8	1
E7	16.1	16.1				4	2	0		100	2.4	
SK												
E4	20.4	18.3				667	218	23	27	91.3	20.4	
E5	19.1	15.6				785	296	62	54	94.5	7.5	
E6	19.8	13.8	FY09 Q4	FY10 Q1	FY10 Q3	353	131	53	35	95.2	6.6	
E7	9.7	6.0	FY08 Q1	FY08 Q1	FY08 Q2	86	66	35	12	95.6	4.3	
E8	9.8	5.0	NOW	FY08 Q1	FY08 Q1	32	26	21	5	80.8	6.5	
E9	23.4	11.3	FY08 Q3	FY08 Q3	FY09 Q1	6	2	2		100	6.7	
SO											PS	
E4	N/A	4.7	NOW	NOW	FY08 Q1	1	0	1		N/A	33.1	1
E5	12.4	12.4				9	8	0		90.9	6.4	1
E6	15.9	14.0				18	8	1		100	4.2	1
E7	7.2	6.1	FY08 Q1	FY08 Q3	FY09 Q3	6	7	1		100	2.2	
E8	2.9	1.6	NOW	NOW	NOW	1	2	1		100	4.1	
STG											PS	
E4	101.2	101.2				32	2	0		91.3	16.6	2
E5	44.8	26.0				62	10	7	2	90.9	5	
E6	66.0	24.8				45	5	8	4	92.1	6.4	
E7	24.5	5.4	NOW	FY08 Q1	FY08 Q2	4	1	3		100	6.3	

RP :Some NECs receive level 1 reenlistment incentive

Appendix D: Enlisted Metrics—continued

	Ratio		When worst ratio drops below:			Total 2-year mobilization requirements			03/07-06/07 Never-mobilized quarterly retention (%)	Quarterly average un-mobilizable (%)	EB	Reenlistment incentive
	Best	Worst	6	5	4	Current # mobilizable	In-voluntary	Voluntary				
SW											NAT, PS	
E4	8.3	8.1				60	39	1		92.3	20.5	1
E5	6.2	5.0	NOW	NOW	FY08 Q2	83	85	17	2	90	7.6	1
E6	10.8	5.7	NOW	FY08 Q1	FY08 Q2	55	42	32	1	92.5	4	2
E7	8.1	4.2	NOW	NOW	FY08 Q1	11	12	9		88.9	4.5	
E8	16.7	7.9	FY08 Q2	FY08 Q2	FY08 Q3	6	3	3	1	100	4.7	
TM												
E4	54.5	54.5				16	2	0	1	60	19.2	3
E5	24.3	24.3				42	13	0	3	89.2	6.6	
E6	15.5	11.0	FY09 Q4	FY10 Q1	FY10 Q3	20	8	3	2	100	10.9	
E7	11.2	11.2	FY08 Q3	FY08 Q3	FY08 Q3	1	1	0		0.5	10.3	
E8	N/A	-1.0	NOW	NOW	NOW	0	0	1		N/A	0	
E9	N/A	-1.0	NOW	NOW	NOW	0	0	1		N/A	0	
UT												NAT, PS
E4	9.3	9.1				60	40	1	1	84.1	23.1	1
E5	8.2	6.5	FY08 Q1	FY08 Q3	FY09 Q1	88	79	18	1	91.3	8.7	1
E6	10.5	8.0	FY08 Q1	FY09 Q3	FY10 Q3	72	57	16	1	92.5	4.2	
E7	1.0	0.8	NOW	NOW	NOW	3	15	2		100	0.6	
E8	6.3	3.4	NOW	NOW	NOW	3	3	2	1	100	4.7	
YN												
E4	35.5	32.5				297	56	5	28	91	24.9	
E5	36.8	29.2				472	88	22	42	89.1	9	
E6	39.6	29.0				235	45	16	40	93	5.7	
E7	17.5	14.2	FY09 Q4	FY10 Q2	FY10 Q3	66	27	6	19	93.1	7.5	
E8	14.7	10.8	FY08 Q3	FY09 Q2	FY09 Q2	5	3	1		100	7.4	
E9	N/A	23.9	FY10 Q3	FY10 Q4		4	1	1		75	5	

Appendix E: Officer Metrics

	Ratio		When worst ratio drops below:			Total 2-year mobilization requirements			03/07-06/07 Never-mobilized quarterly retention (%)	Quarterly average un-mobilizable (%)	Recruiting Incentive
	Best	Worst	6	5	4	Current # mobilizable	In-voluntary	Voluntary			
SWO - 111X											LCDR and below
O3	86.8	83.7				266	28	1	25	92.5	5.9
O4	65.7	51.9				377	50	13	53	95.8	3.4
O5	47.7	31.1				440	62	32	47	96	3
O6	31.2	60.1				176	10	9	18	95.6	2.1
Spec War - 113X											LCDR and below
O1	4.2	4.2	NOW	NOW	FY08 Q2	1	3	0	0	100	2.2
O2	9.5	6.9	FY08 Q1	FY08 Q1	FY08 Q2	0	3	1	0	N/A	1.3
O3	8.3	8.3	FY09 Q3	FY09 Q4	FY10 Q3	11	10	0	5	100	1.3
O4	7.6	4.3	NOW	NOW	FY08 Q1	8	5	3	1	100	0.1
O5	24.0	9.7	FY10 Q2	FY10 Q4		10	3	4	1	85.9	3.1
Spec Ops - 114X											LCDR and below
O4	72.5	48.0				4	2	1	2	91.6	0
O5	36.5	21.5				17	3	2	2	100	0.7
O6	N/A	69.1				10	0	3	4	88.9	2.7
Pilot-131X											LT and below
O3	122.3	122.3				81	5	0	12	92.7	4.3
O4	208.8	159.1				691	29	9	82	96.6	1.7
O5	154.4	108.9				614	29	17	89	97	1.9
O6	169.6	145.2				145	6	4	16	95	1.8
NFO-132X											LT and below
O3	123.0	123.0				27	2	0	3	96.3	7.4
O4	88.5	84.0				195	19	1	16	99	2.9
O5	146.4	113.6				273	14	4	33	97.5	1.8
O6	141.2	93.8				91	4	2	10	97.1	2
INFO-160X											LCDR and below
O2	5.0	5.0	NOW	FY08 Q1	FY08 Q1	0	1	0	0	100	0
O3	13.3	13.3				9	4	0	0	100	5.1
O4	4.9	4.9	NOW	NOW	FY08 Q2	10	15	0	0	90	10.2
O5	28.3	23.5				18	5	1	0	100	4.3
O6	-1.0	-1.0	NOW	NOW	NOW	1	1	0	0	N/A	0
Intel-163X											LCDR and below
O1	11.9	8.7				89	14	5	4	100	82
O2	17.9	15.5				174	46	7	15	96.9	49
O3	22.5	20.4				292	81	8	21	95.7	18
O4	27.7	22.9				151	49	10	24	92	7
O5	65.0	31.2				192	20	21	15	98.6	3
O6	368.6	104.6				114	2	5	6	95.4	2

Recruiting Incentive is based on [9]

Appendix E: Officer Metrics—continued

	Ratio		When worst ratio drops below:			Total 2-year mobilization requirements			03/07-06/07 Never-mobilized quarterly retention (%)	Quarterly average unmobilizable (%)	Recruiting incentive
	Best	Worst	6	5	4	Current # mobilizable	In-voluntary	Voluntary			
MC-210X											CDR and below
O3	304.5	304.5				45	1	0	0	97.6	72
O4	63.6	51.9				66	9	2	1	92.3	29
O5	56.2	46.3				111	19	4	6	91.7	7.3
O6	31.8	17.2				128	15	12	8	95.7	3.6
MC-Surgeons											CDR and below
O4	109.6	54.5				14	1	1	0	100	28.7
O5	40.8	40.8				17	6	0	0	80	7.3
O6	66.1	21.4				27	1	2	0	100	3.6
MSC-230X											LT and below
O3	47.3	37.7				35	8	2	4	100	3.4
O4	25.3	21.1				97	26	5	9	100	6.2
O5	43.1	30.1				76	12	5	15	100	4.8
O6	277.1	68.5				51	1	3	7	97.1	1.5
JAG-250X											
O3	126.9	75.8				42	3	2	9	95.8	5.7
O4	161.9	161.9				136	7	0	16	95.9	1.7
O5	154.1	76.6				141	7	7	17	98.5	1.3
O6	158.0	158.0				111	5	0	10	97	1.7
Nurse Corps-290X											LT and below
O1	100.6	100.6				13	1	0	0	100	4.1
O2	48.5	48.5				40	11	0	2	100	12.3
O3	30.6	27.9				242	63	6	16	93.5	10.5
O4	38.9	33.3				236	49	8	24	98.8	5.3
O5	37.7	31.5				265	42	8	37	98.3	5.1
O6	104.2	86.7				141	5	1	16	98.6	4
Supply-310X											LCDR and below
O2	9.2	8.5	FY10 Q3			16	26	2	0	91.3	10.5
O3	5.1	4.6	NOW	NOW	FY08 Q2	55	74	7	9	97.3	6.7
O4	5.7	5.0	NOW	NOW	FY08 Q2	76	104	13	15	93.6	4.7
O5	10.7	8.1	FY08 Q2	FY08 Q4	FY09 Q1	105	68	20	15	92.9	4.5
O6	31.9	27.2				77	18	3	9	94.7	2.7
Chaplain-410X											LCDR and below
O3	14.8	13.4				35	20	2	6	97.3	5.7
O4	35.2	26.2				40	12	4	10	94.4	2.3
O5	39.3	34.3				45	7	1	5	97	2.9
O6	156.8	156.8				22	1	0	2	94.7	4
CEC-510X											LCDR and below
O1	18.3	16.4				20	9	1	0	100	5.3
O2	7.2	6.4	FY08 Q1	FY08 Q2	FY08 Q3	23	38	4	1	100	5.5
O3	6.0	4.8	NOW	NOW	FY08 Q2	50	59	12	11	94.6	2.7
O4	6.1	4.9	NOW	NOW	FY08 Q2	29	40	8	8	95	2.3
O5	2.2	1.7	NOW	NOW	NOW	37	64	14	12	95.5	2.1
O6	11.9	9.0	FY08 Q2	FY09 Q2	FY09 Q2	23	14	4	6	81.8	2

Surgeons include subspecialties 15CO, 15CI, 15DO, 15DI, 15HO, 15HI

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