OPNAV N43 Readiness & Ranges

Cost of Readiness Earned From Range Use

October 9, 2008

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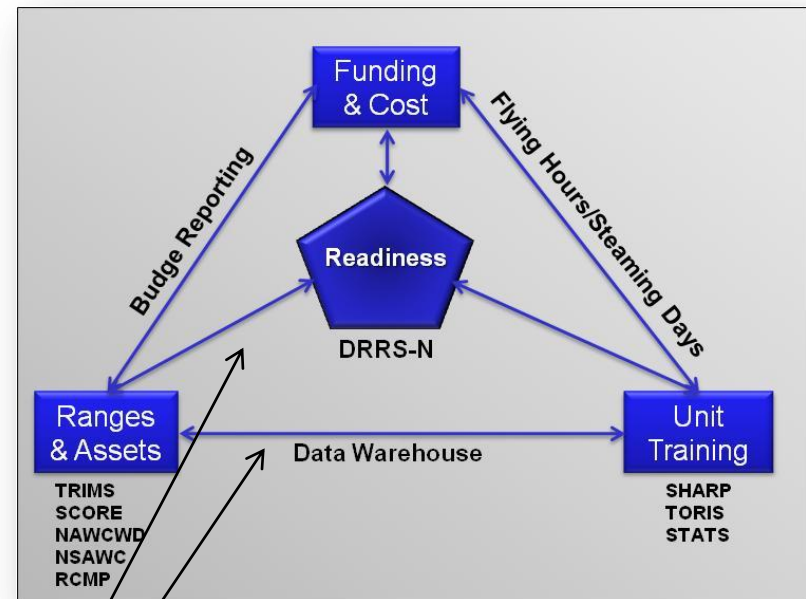*703-448-6081 ext. 263*
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Study Background

- WBB—who we are

- Working for OPNAV/N433 (Range Office)

- Goals
  - Better defend Range $$ during budget process by:
    - Linking fleet readiness gained to range usage
    - Show readiness impact of budget decisions

  - Help make more informed range investment decisions
    - Accurate/timely cost, usage and readiness data

  - Better defend DoN Ranges against Encroachment challenges

  - Do so with existing databases

Why Link Readiness to Range Use & Cost?

- 3 legacy databases for each community
  - Independent data functions
  - All accomplishing intended tasks

- Readiness picture requires <u>T&R</u>, <u>Range Asset</u> & <u>Cost</u> inputs

- Dilemma
  - Fleet operators know what training was accomplished
  - Ranges know what assets were used
  - OPNAV knows the cost of both

- Goal is to capture what all three know (make the lines connect)

Readiness Dependencies

Funding & Cost

Budge Reporting

Flying Hours/Steaming Days

Readiness
DRRS-N

Ranges & Assets
TRIMS
SCORE
NAWCWD
NSAWC
RCMP

Data Warehouse

Unit Training
SHARP
TORIS
STATS

Readiness carries a great deal of weight inside the "Beltway"
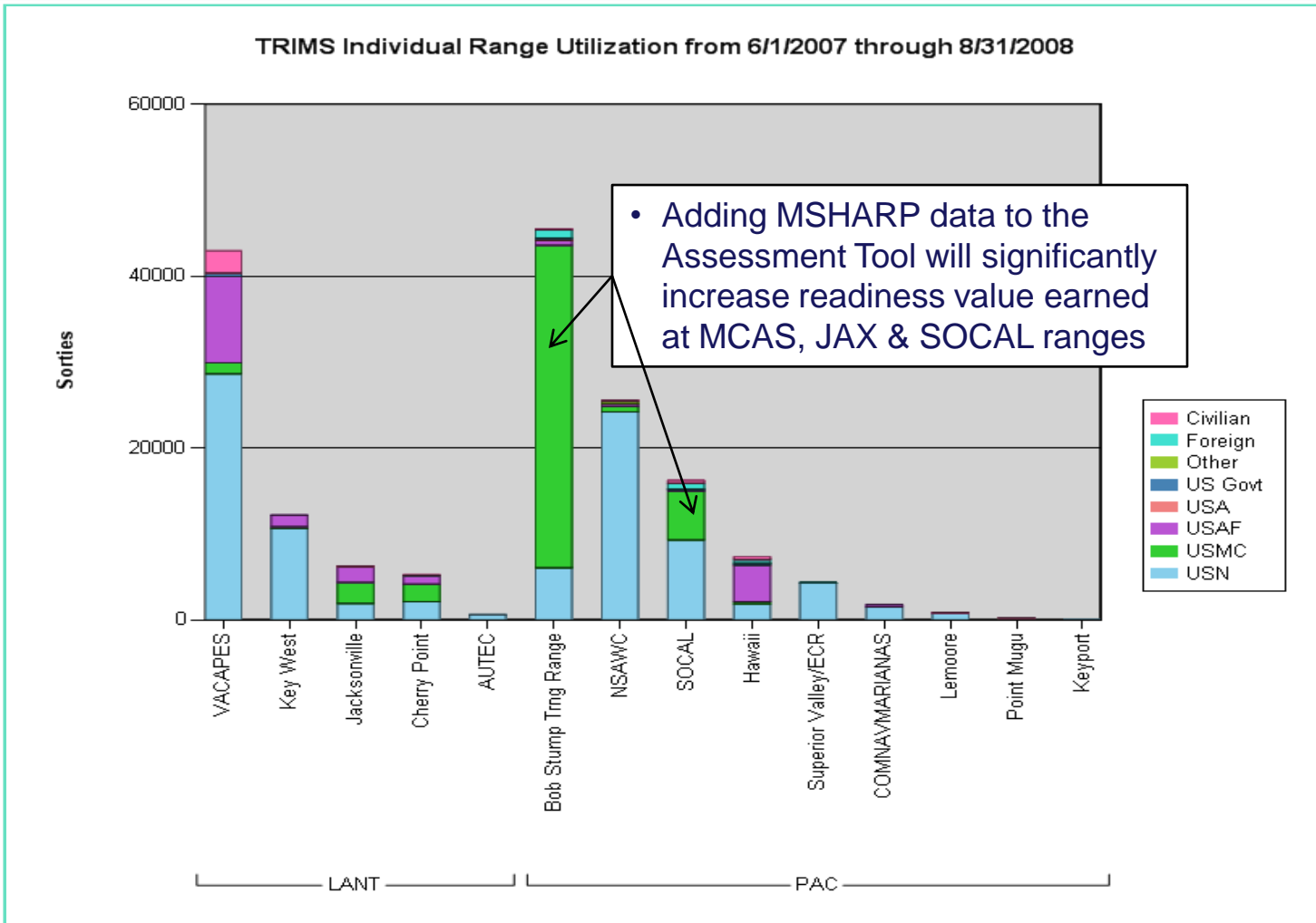
Assessment Tool
'Cost of Readiness Earned from Range Use'

- Assessment Tool Description
  - Web based database able to build reports real-time to support various data views and assessment parameters

  - Uses existing data sources to assess range 'value'

  - Data types include:
    - Utilization data for Ranges and OPAREAs/Warning Areas
    - Range Operations Support (ROS) Cost
    - Training Readiness and Proficiency data

  - Data sources include:
    - Target & Range Information Management System (TRIMS)
    - Zero Base Budget Review (ZBBR) Cost
    - Sierra Hotel Aviation Readiness Program (SHARP)
    - Status of Resources & Training (SORTS)
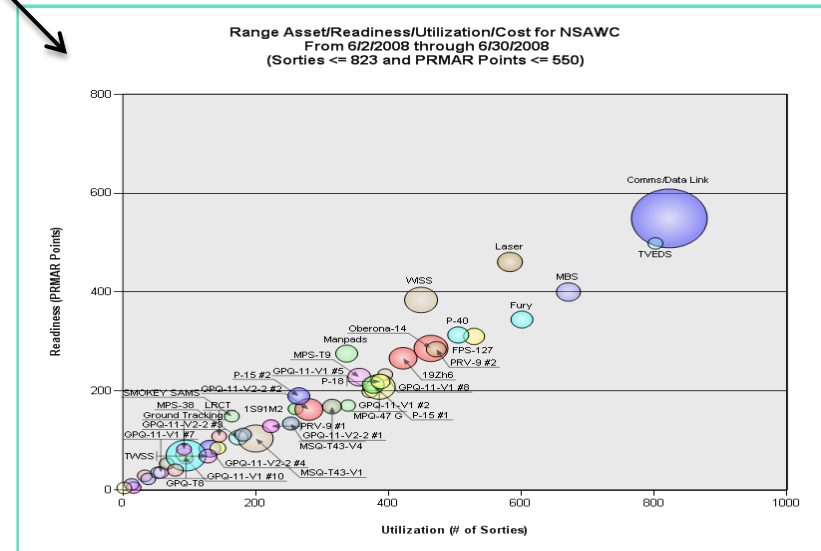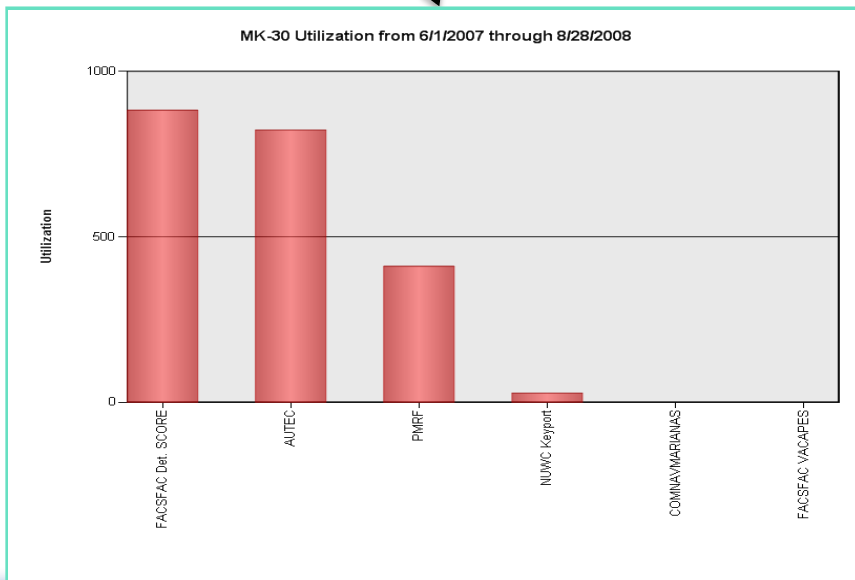   - DoD Readiness Reporting System (DRRS)

Range Users

TRIMS Individual Range Utilization from 6/1/2007 through 8/31/2008

• Adding MSHARP data to the Assessment Tool will significantly increase readiness value earned at MCAS, JAX & SOCAL ranges

Legend:
- Civilian
- Foreign
- Other
- US Govt
- USA
- USAF
- USMC
- USN

X-axis categories: VACAPES, Key West, Jacksonville, Cherry Point, AUTEC, Bob Stump Trng Range, NSAWC, SOCAL, Hawaii, Superior Valley/ECR, COMNAVMARIANAS, Lemoore, Point Mugu, Keyport

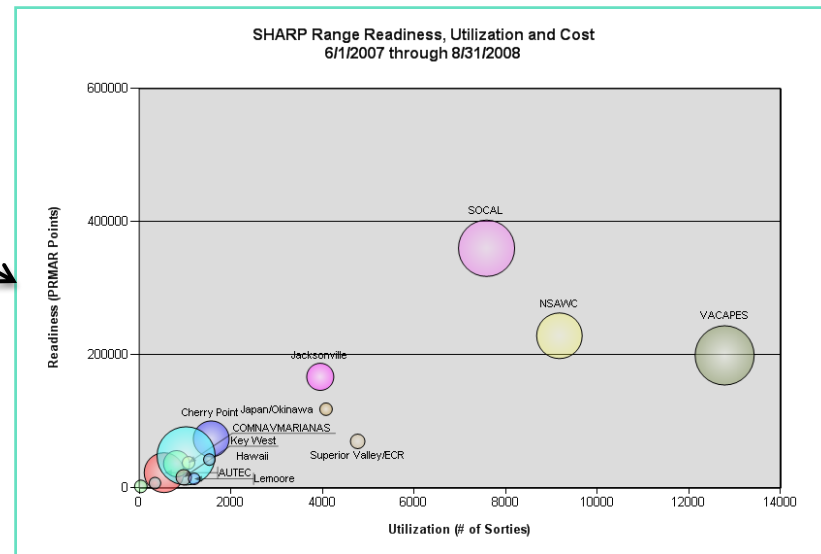LANT — PAC

Y-axis: Sorties (0, 20000, 40000, 60000)

•**Range reporting system provides insight into range users**
•**OPNAV N433 (NRO) desires a DoN solution because $$ go to USN & USMC ranges**
•**Linked readiness from range use data used for POM budgets & encroachment issues**

Data Insights

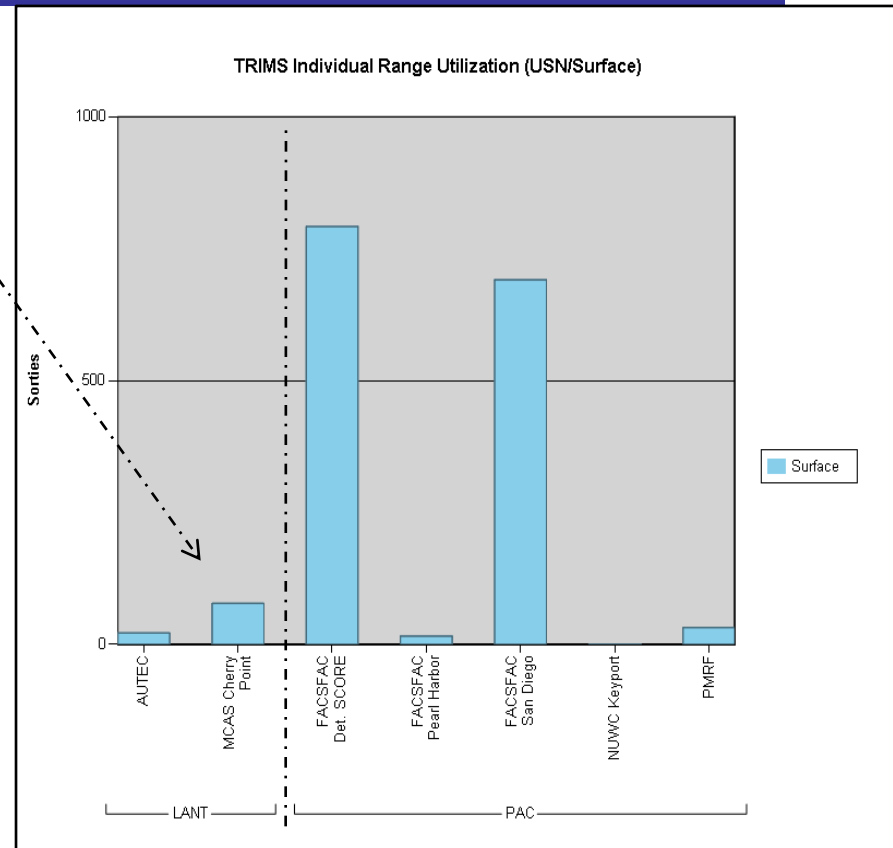- By Range—Readiness vs Utilization & Range Cost

- By Range for specific event or exercise (CVW NFL Det)
  - Readiness by Asset & Cost

- Specific Equipment by Range

SHARP Range Readiness, Utilization and Cost
6/1/2007 through 8/31/2008

MK-30 Utilization from 6/1/2007 through 8/28/2008

Range Asset/Readiness/Utilization/Cost for NSAWC
From 6/2/2008 through 6/30/2008
(Sorties <= 823 and PRMAR Points <= 550)

Finding - Mobile Sea Range (MSR)
Utilization not Recorded in TRIMS

- Most East Coast Surface training operations were <u>undocumented in USFF TRIMS</u>
  - VACAPES & JAX OPAREA daily utilization
  - Dam neck & MSR aerial & seaborne target operations

- MSR subsystems support Ship & Air events & are not in TRIMS:
  - HUGO, HUNTER, PREVAIL
  - Aerial Target Launch/Recovery
  - Seaborne Target Launch/Recovery

- > 6% of FY07 Range Operations Support (ROS) budget

N433 / WBB working with USFF to record this utilization data in to TRIMS

TRIMS Individual Range Utilization (USN/Surface)

Sorties (axis: 0, 500, 1000)

Ranges: AUTEC, MCAS Cherry Point, FACSFAC Det. SCORE, FACSFAC Pearl Harbor, FACSFAC San Diego, NUWC Keyport, PMRF

LANT | PAC

Legend: Surface

Mobile Sea Range (MSR)			
Training Range Operations Support (ROS) $s not in ZBBR	Who pays	FY07 ROS $s	Fleet Training Range Services Provided
VACAPES / MSR	USFF / CSFTL	$ 5,010,000	Prevail & CSFTL Live Training Operations
VACAPES / MSR	USFF / CSFTL	$ 555,557	CSFTL/MSR CSG/ESGEX Support; NAWC38, TWR841, NRL Pod use
VACAPES / MSR	USFF / CNAL	$ 1,720,000	HUGO
VACAPES / MSR	USFF / CNAL	$ 1,354,947	HUNTER
VACAPES / MSR	USFF / CNAL	$ 635,617	Hugo Availability
VACAPES / MSR	USFF / CNAL	$ 412,788	H Boat Upgrades
VACAPES / MSR	USFF / CNAL	$ 1,127,020	PREVAIL Upgrades
VACAPES / MSR	USFF / NAVSEA	$ 366,348	Seaborne Targets Support (ITT Contract)
Total FY07 MSR ROS $s		$ 11,182,277	

Zero Use Assets with Significant Cost

Sched Auth ID	Range Name	Range_Name	Asset_System Name	Asset_Name
013	NSAWC	Air/Sea space	Non-system	Facilities
"	"	R-4803/B-16	"	Other costs
"	"	R-4804/B-17	Comms/Data Link	Radios/Voice
"	"	R-4810/B-19	"	Data Links
"	"	R-4813/B-20	"	Networks
"	"	R-4816	Air/Surf Tracking	TACTS
"	"	Austin MOA	"	LATR/Galaxy
"	"	Gabbs MOA	Land Targets/TST	Land Targets/TST
"	"	Churchill MOA	Ordnance/ORC	Ordnance/ORC
"	"	Ranch MOA	Scoring Systems	WISS
"	"	Carson MOA	"	Laser
"	"	Reno MOA	"	Strafe Scoring
"	"	-	Link-11/16	Link-11/16
"	"	-	Surveillance Systems	RASS 1
"	"	-	"	RASS 2
"	"	-	"	RASS 3
"	"	-	EW	19Zh6
"	"	-	"	1S91M2
"	"	-	"	ALQ-108
"	"	-	"	FPS-127
"	"	-	"	FSB-V1
"	"	-	"	GPQ-11-V1 #1
"	"	-	"	GPQ-11-V1 #2
"	"	-	"	GPQ-11-V1 #3

Range Asset Costs for NSAWC 06/01/2007 - 08/31/2008				
Asset	System	Sorties	Usage	Cost
FSB-V1	EW	0	0	$23,860
GPQ-11-V1 #1	EW	432	432	$36,596
GPQ-11-V1 #10	EW	1421	1421	$18,388
GPQ-11-V1 #11	EW	952	952	$0
GPQ-11-V1 #2	EW	2166	2166	$9,621
GPQ-11-V1 #3	EW	912	912	$47,640
GPQ-11-V1 #4	EW	1050	1050	$845
GPQ-11-V1 #5	EW	3397	3397	$35,750
GPQ-11-V1 #6	EW	1500	1500	$1,826
GPQ-11-V1 #7	EW	783	783	$0
GPQ-11-V1 #8	EW	4168	4168	$0
GPQ-11-V1 #9	EW	539	539	$1,028
GPQ-11-V10 #1	EW	13	13	$42,761
GPQ-11-V2-2 #1	EW	1589	1589	$39,958
GPQ-11-V2-2 #2	EW	3016	3016	$442,658
GPQ-11-V2-2 #3	EW	1015	1015	$63,860
GPQ-11-V2-2 #4	EW	3101	3101	$406,951
GPQ-11-V3 #1	EW	3123	3123	$69,419
GPQ-11-V6 #1	EW	219	219	$20,578
GPQ-T8	EW	1096	1096	$985,281
Ground Tracking	Air/Surf Tracking	671	671	$0
I-TWS	EW	613	613	$812,307
Land Targets, TST	Land Targets/TST	0	0	$1,102,626
Laser	Scoring Systems	5195	5277	$277,954

Steps to an automated, repeatable process
Developed master asset list by range
Improved data & linking ability = 'Credible Data'
Collected utilization, cost & readiness (value) data in to one repository
Created 'Tool' to help OPNAV assess cost vs. value of OPNAV range funding

| Line #	Range Operations $upport not in ZBBR	Who pays	12-mo ROS $s	What this pays for
47	VACAPES / MSR	USFF / CSFTL / MSR	$5,010,000	Prevail & CSFTL Live Training Operations
48	VACAPES / MSR	USFF / CSFTL / MSR	$555,557	CSFTL/MSR Exercise Support (CSG/ESGEX); includes use of NAWC 38, TWR 841, NRL Pods
49	VACAPES / MSR	USFF / CNAL / MSR	$1,720,000	Hugo
50	VACAPES / MSR	USFF / CNAL / MSR	$1,354,947	Hunter
51	VACAPES / MSR	USFF / CNAL / MSR	$635,617	Hugo Availability
52	VACAPES / MSR	USFF / CNAL / MSR	$412,788	H Boat Upgrades
53	VACAPES / MSR	USFF / CNAL / MSR	$1,127,020	PREVAIL Upgrades
54				
55				
56	SCORE	CPF Keyport MK-30 Depot Support	$159,334	$26000k + $133334 depot support MK-30 PAC operations - 1C/4C funds (adds 1/3 Japan/Oki MK-30 $s)
57	PMRF	CPF Keyport MK-30 Depot Support	$159,334	$26000k + $133334 depot support MK-30 PAC operations - 1C/4C funds (adds 1/3 Japan/Oki MK-30 $s)
58	Nanoose	CPF Keyport MK-30 Depot Support	$79,666	$26000k + $66666 depot support MK-30 PAC operations - 1C/4C funds (adds 1/6 Japan/Oki MK-30 $s)
59	Dabob Bay	CPF Keyport MK-30 Depot Support	$79,666	$26000k + $66666 depot support MK-30 PAC operations - 1C/4C funds (adds 1/6 Japan/Oki MK-30 $s)
60	Nanoose	CNAP	$285,000	Fleet Use of Nanoose VISTA - 1C/4C funds
61	PMRF	CNAP	$285,000	Fleet Use of PMRF VISTA - 1C/4C funds
62	SCORE	CPF MK-30 ROS $s SCORE	$2,246,000	MK-30 lines at SCORE & contract admin - 1C/4C funds
63	PMRF	CPF MK-30 ROS $s PMRF	$2,323,500	MK-30 lines at PMRF & contract admin - 1C/4C funds
64	Nanoose	CPF MK-30 ROS $s Keyport/Nanoose	$65,000	MK-30 lines at Nanoose & contract admin - 1C/4C funds
65	Dabob Bay	CPF MK-30 ROS $s Keyport/Dabob Bay	$65,000	MK-30 lines atDabob Bay & contract admin - 1C/4C funds
66	COMNAVMARIANAS	CPF MK-30s ***	$322,500	MK-30 lines at Guam & contract admin - 1C/4C funds
67				
68				
69	FACSFAC VACAPES (Dare)	RCMP/ORC	$333,333	ORC/RCMP/Sustainment / 0204571N
70	MCAS Cherry Point	RCMP/ORC	$333,333	ORC/RCMP/Sustainment / 0204571N
71	FACSFAC Jacksonville	RCMP/ORC	$333,333	ORC/RCMP/Sustainment / 0204571N
72	NSAWC	CPF RCMP/ORC	$1,038,782	ORC/RCMP/Sustainment / 0204571N
73	SCORE	CPF RCMP/ORC	$113,136	ORC/RCMP/Sustainment / 0204571N
74	NAF El Centro	CPF RCMP/ORC	$547,077	ORC/RCMP/Sustainment / 0204571N
75	Whidbey/Boardman	CPF RCMP/ORC	$193,954	ORC/RCMP/Sustainment / 0204571N
76	PMRF/Kaula Rock	CPF RCMP/ORC	$96,174	ORC/RCMP/Sustainment / 0204571N
77	COMNAVMARIANAS/FDM	CPF RCMP/ORC	$155,204	ORC/RCMP/Sustainment / 0204571N
78	Jima	CPF RCMP/ORC	$80,884	ORC/RCMP/Sustainment / 0204571N
114	Electronic Combat Range	CNAP	$1,000,000	China Lake EW Range
115				
116	Superior Valley	CNAP / Event Direct Cost$	$650,000	Annual amount paid by CNAF - 1C4C funds
117				
118	Dare (VACAPES)	Government Salaries	$585,030	(supplied from USFF/Kim M email 1/4/08)
119				
120	FACSFAC JAX	Government Salaries (JAX/PNC)	$293,898	(supplied from USFF/Kim M email 1/4/08)
121				
122	SCORE	TWR	$720,000	TWR annual costs (supplied by SCORE/Heidi)
		Totals =	**$51,375,596**	

Oct '06 – $12M of $180M budget connected to specific ranges & assets
Oct '08 - $166M of $180M budget connected to specific ranges & assets
Oct '08 - Another ~$14M in Program Management & 'Other' costs

Quality of Training

- **Difficult to quantify but very important**
  - Range attributes (e.g. airspace, targets, debrief capability, cadre of professional instructors and adversaries, etc.)
  - Capability to host Large Force Exercises as well as Unit Level events
  - Accessibility (scheduling, distance from home base)
  - Mission (STW, AAW, CCC, ASU...)

- **Decision Support Tools to quantify "Quality"**

STW INT Range Attributes Assessment

Training Range Attribute		Attribute Priority
Air / Sea / Under-Sea Space	Supersonic Air Space	0.0197
	Air Refueling	0.0352
	Horizontal Air Space	0.0937
	Vertical Air Space	0.0655
	Proximity	0.0357
Land Space	Impact Area	0.1011
	Laser (Live / Inert)	0.0491
	Sufficient Land Space	0.0870
	Advanced Weapons Employment	0.0499
	Complex Terrain	0.0561
	Landing Zone Availability	0.0179
Target Systems Employment	Time Sensitive / Relocatable Targets	0.0299
	Target Fidelity	0.0249
	Full Spectrum / Warfare Appropriate	0.0306
	Target Type Variety	0.0188
	Live / Full Scale	0.0204
	Electronic Warfare Operations	0.0383
	OPFOR	0.0618
Instrumentation / Communications	Ground Truth Tracking	0.0393
	Monitoring	0.0177
	Debrief	0.0550
	Feedback / Scoring	0.0244
	Comms	0.0278

STW INT Range Attributes Assessment
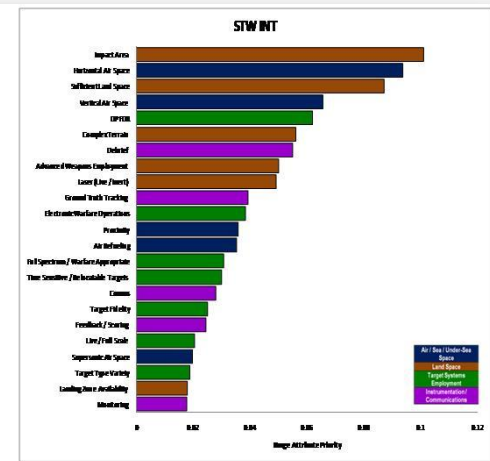
Training Range Attribute		Attribute Priority	VACAPES	MCAS Cherry Pt	JAX / Pinecastle	SOCAL	NSAWC	Superior Valley / ECR
Air / Sea / Under-Sea Space	Supersonic Air Space	0.0197	0.8028	0.7324	0.7219	0.7916	0.6267	0.2084
	Air Refueling	0.0352	0.8322	0.7831	0.7374	0.8322	0.7327	0.3631
	Horizontal Air Space	0.0937	0.7666	0.6659	0.5868	0.8572	0.8410	0.4024
	Vertical Air Space	0.0655	0.6439	0.6325	0.5410	0.7483	0.6122	0.4490
	Proximity	0.0357	0.9411	0.7119	0.5589	0.8867	0.8919	0.5337
Land Space	Impact Area	0.1011	0.3551	0.5143	0.6684	0.5059	0.4389	0.4096
	Laser (Live / Inert)	0.0491	0.4957	0.7374	0.6149	0.5422	0.8042	0.3849
	Sufficient Land Space	0.0870	0.2679	0.3933	0.3805	0.4469	0.8715	0.4229
	Advanced Weapons Employment	0.0499	0.3438	0.3575	0.4033	0.6441	0.7121	0.1867
	Complex Terrain	0.0561	0.1884	0.3230	0.3534	0.3292	0.7960	0.4493
	Landing Zone Availability	0.0179	0.3743	0.6533	0.6099	0.5205	0.8490	0.3093
Target Systems Employment	Time Sensitive / Relocatable Targets	0.0299	0.3857	0.5155	0.4493	0.4401	0.7552	0.2510
	Target Fidelity	0.0249	0.3076	0.4798	0.5586	0.4062	0.7920	0.3907
	Full Spectrum / Warfare Appropriate	0.0306	0.4864	0.4811	0.5129	0.6327	0.8450	0.4697
	Target Type Variety	0.0188	0.4139	0.5410	0.5026	0.5013	0.7655	0.4171
	Live / Full Scale	0.0204	0.3233	0.3944	0.4264	0.4719	0.7287	0.2640
	Electronic Warfare Operations	0.0383	0.3722	0.5920	0.4340	0.5738	0.8797	0.6764
	OPFOR	0.0618	0.5741	0.5920	0.5133	0.5920	0.9161	0.3708
Instrumentation / Communications	Ground Truth Tracking	0.0393	0.6123	0.6888	0.5410	0.6623	0.8715	0.3180
	Monitoring	0.0177	0.7574	0.8113	0.6609	0.8278	0.8715	0.5481
	Debrief	0.0550	0.6712	0.7321	0.5664	0.7074	0.9510	0.4550
	Feedback / Scoring	0.0244	0.4583	0.7119	0.6330	0.5581	0.8185	0.4929
	Comms	0.0278	0.7666	0.8113	0.7781	0.8572	0.8225	0.7464
Total Range Attributes Score			0.5159	0.5826	0.5431	0.6199	0.8171	0.4140

0.74489796	Full Capability
0.33673469	Medium Capability
0.06923469	Low Capability
	Very Low Capability

STW Integrated (INT)
Range Comparison – PRMAR Points vs Cost

Total Points vs Total Cost

Range Attributes vs Points Per Sortie
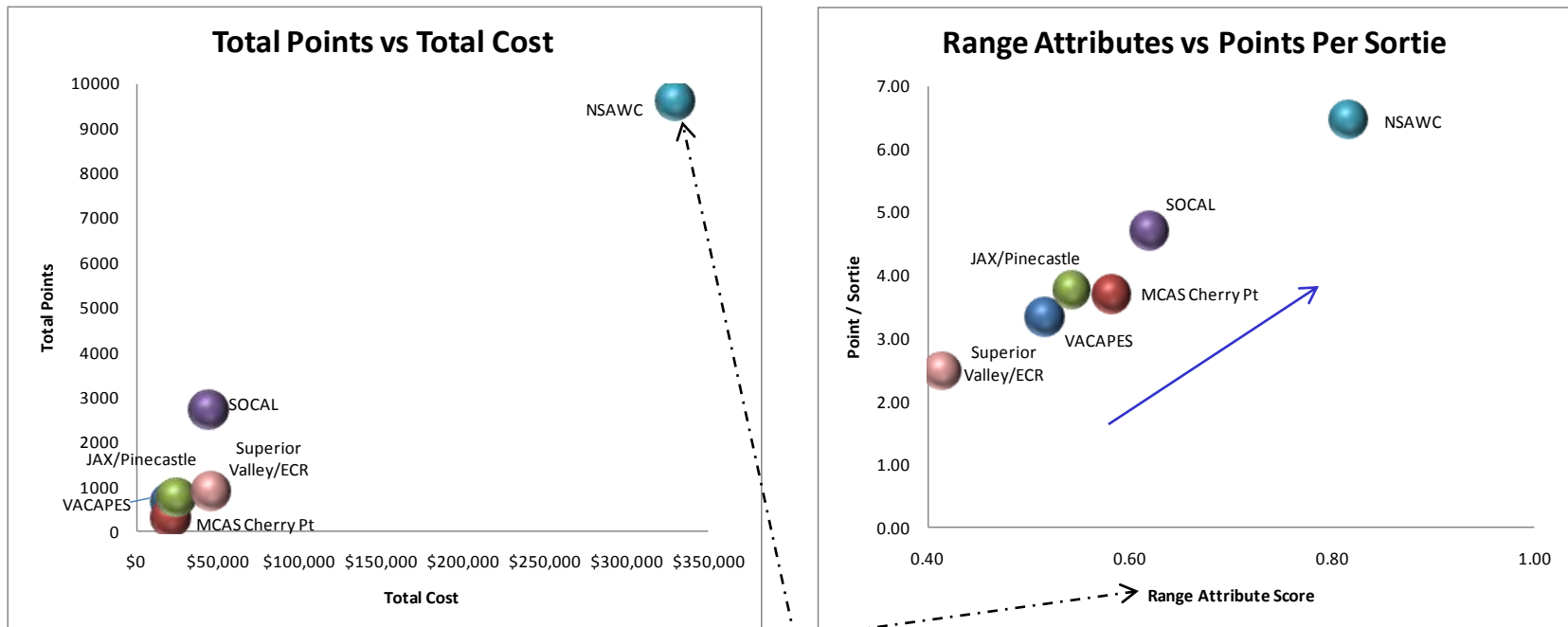
Higher quality of training and readiness result from a > range attribute prioritization score (capability to meet Mission Area/Phase of Training)

Extensive investment in NSAWC range areas & instrumentation provides high quality of training and readiness to CVWs

- NSAWC CVWNFL exercise required for all east and west coast CVWs during Integrated training phase
- SOCAL OPAREAs & Ranges are used west coast CSG/CVW COMPTUEX training with some long-range strike missions to NSAWC & Superior Valley/ECR
- MCAS Cherry Point and JAX/Pinecastle used for all east coast COMPTUEX exercises

BackUp Slides

Data Collection & Linkage Improvements
2006 - 2008

ROS $s - NSAWC Threat Radar Engagement Systems (TRES) 10/01/2004 - 06/30/2006			
TRES Use & ROS $s	EW	32604	$1,270,778

ROS $s - NSAWC Threat Radar Engagement Systems (TRES) 06/01/2007 - 08/31/2008			
GPQ-11-V1 #1	EW	432	$36,596
GPQ-11-V1 #10	EW	1421	$18,388
GPQ-11-V1 #11	EW	952	$0
GPQ-11-V1 #2	EW	2166	$9,621
GPQ-11-V1 #3	EW	912	$47,640
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GPQ-11-V6 #1	EW	219	$20,578
GPQ-T8	EW	1096	$985,281
Total FY07 TRES Use & ROS $s		30492	$2,223,159

Zero Use Assets with Significant Cost

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"	"	R-4810/B-19	"	Data Links
"	"	R-4813/B-20	"	Networks
"	"	R-4816	Air/Surf Tracking	TACTS
"	"	Austin MOA	"	LATR/Galaxy
"	"	Gabbs MOA	Land Targets/TST	Land Targets/TST
"	"	Churchill MOA	Ordnance/ORC	Ordnance/ORC
"	"	Ranch MOA	Scoring Systems	WISS
"	"	Carson MOA	"	Laser
"	"	Reno MOA	"	Strafe Scoring
"	"	-	Link-11/16	Link-11/16
"	"	-	Surveillance Systems	RASS 1
"	"	-	"	RASS 2
"	"	-	"	RASS 3
"	"	-	EW	19Zh6
"	"	-	"	1S91M2
"	"	-	"	ALQ-108
"	"	-	"	FPS-127
"	"	-	"	FSB-V1
"	"	-	"	GPQ-11-V1 #1
"	"	-	"	GPQ-11-V1 #2
"	"	-	"	GPQ-11-V1 #3

Range Asset Costs for NSAWC
06/01/2007 - 08/31/2008

Asset	System	Usage	Cost
Corona Support	Non-system	0	$52,870
Facilities	Facilities	0	$1,212,893
FSB-V1	EW	0	$23,860
Land Targets, TST	Land Targets/TST	0	$1,102,626
LATR/Galaxy	Air/Surf Tracking	0	$0
MRES	EW	0	$49,610
RCMP/ORC	Ordnance/ORC	0	$1,298,478
TPT-T3 (MTES)	EW	0	$4,504

Steps to an automated, repeatable process
Developed master asset list by range
Improved data & linking ability = 'Credible Data'
Collected utilization, cost & readiness (value) data in to one repository
Created 'Tool' to help OPNAV assess cost vs. value of OPNAV range funding