Winch Pool Mission

- Shared-use facility procures, maintains, upgrades, and provides variety of science-requested portable oceanographic winches for broad range of research vessels
- Support scientific needs of users and comply with strict safety standards (CFRs & RVSS Appendix A & B)
- Skilled technical staff for maintenance, repair, fabrication, engineering & answers
- Strive for continuous improvement
Pool Assets (NSF-owned)

- 1 Dynacon traction winch (DTW)
- 1 Dynacon CTD traction winch
- 3* TSE mooring spoolers
- 3 sets fiber optic slip rings

SIO Assets

- Line spoolers & tensioners (1960’s vintage)
- Cranes & forklifts

* 1 TSE Mooring Spooler is SIO-owned, but operated as pooled asset
Pool Assets (cont.)

DTW Components

Three deployments in 2013; only one deployment in 2014 thus far. DTW generally returns to our facility between deployments for overhaul and service.
Pool Assets (cont.)

Dynacon CTD
Acquired from UHMC in 2010
Formerly on long-term deployment to R/V MARCUS LANGSETH
Returned to SIO late 2013
Awaiting refurbishment and the addition of a flagging block
Pool Assets (cont.)

3 TSE Mooring Spoolers

2 of 3 spoolers heavily subscribed in 2013.

Less requests in 2014 (40% fewer than April 2013)
Asset Utilization in 2013

- **Dynacon CTD Winch:** long-term deployment aboard R/V Langseth (11/12 months).
- **Dynacon Traction Winch:** 3 deployments, 74 days of usage (a 40% decrease from 2012).
- **TSE Mooring Spoolers:** deployments aboard six vessels (*Melville, Revelle, Sproul, Oceanus, Sharp, Knorr*). Funded days decreased by 12%.

```
Spooler  Days  Deployments
NSF1     71    10
NSF4     128   5
SIO      68    5
TOTAL    267   20
```
Projected Asset Utilization in 2014

*Numbers certain to increase as year progresses.*

- **Dynacon CTD Winch:** No deployments scheduled. We expect interest in this winch to increase dramatically with the demand for 0.322 FO cable.

- **Dynacon Traction Winch:** 1 deployments, 36 days of usage onboard R/V Merian.

- **TSE Mooring Spoolers:** world-wide deployments aboard six vessels.

<table>
<thead>
<tr>
<th>Spooler</th>
<th>Days</th>
<th>Deployments</th>
<th>Ship</th>
</tr>
</thead>
<tbody>
<tr>
<td>NSF1</td>
<td>41</td>
<td>8</td>
<td><em>Oceanus, Melville</em></td>
</tr>
<tr>
<td>NSF4</td>
<td>27</td>
<td>4</td>
<td><em>New Horizon, Healey</em></td>
</tr>
<tr>
<td>SIO</td>
<td>50</td>
<td>3</td>
<td><em>Revelle</em></td>
</tr>
<tr>
<td><strong>TOTAL TO DATE</strong></td>
<td><strong>118</strong></td>
<td><strong>15</strong></td>
<td></td>
</tr>
</tbody>
</table>
SIO Assets

Line Spooling & Tensioning

Note: all of this equipment is 1960’s vintage; no capability for precise level winding or tensioning.
WP Elements

• Management and Quality Control
  – Pool Manager (part time, 20 %)
  – Winch/Wire Engineer (full time)

• Travel
  – WP tech attends vessels for mob/de-mob of Dynacon deep sea traction winch
  – Occasional travel supporting other winches
WP Elements

• Normal Equipment Maintenance & Support
  – Covered by the day rate for each winch
  – Includes tech wages, materials and supplies, cable spooling on pool assets (when spooling is done at SIO Marine Facility)

• Specialized Services
  – Engineering: design, analysis, MCD development, etc.
  – Base funding amount requested annually; big ticket items called-out separately
WP Elements

• Logistics (Shipping and Crane Service)
  – Expenses estimated annually and funds requested
• Specialized Maintenance, Upgrades & Repair
  – Major overhaul/repair items not part of routine maintenance; called-out separately in proposals
  – Winch mods for RVSS Appendix B compliance, or improved functionality
  – Improvements to TSE spoolers
• Capital Equipment Purchases
  – Generally big ticket items; called-out separately in proposals
Current Challenges Facing the Pool

• Attaining RVSS App A/B compliance for pooled assets and NSF-funded UNOLS operators

• Scheduling/prioritizing engineering services

• Specifying and purchasing much needed assets (mooring spooler, portable spooling equipment, light-duty winches)

• Attaining compliance with upcoming wire maintenance standards
Current Projects

- RVSS Appendix B Revision
- R/V New Horizon J-Frame MCD
- R. Pinkel Fast CTD mod (Altair HyperWorks FEA training)
- R/P FLIP face boom
- Commissioning one Lebus double capstan winch
Current Projects

Fast CTD mod
Future Projects

- Dynacon CTD TW refurbishment
- Dynacon CTD flagging block design and fabrication
- R/V New Horizon trawl winch MCD
- R/V Revelle CAST-6 MCD
- R/V Atlantis, Thompson (?) crane/crutch
- R/V Atlantis trawl winch
- R/V Atlantis guide sheaves