

Please review all of the following information, including the gear allocations and field team information, to ensure accuracy. This plan is an agreement between CH2M HILL Polar Services (CPS), formerly VECO Polar Resources, and your group, documenting the logistics support you will receive.

## SECTION ONE: PROJECT INFORMATION

|                             |  |
|-----------------------------|--|
| Lead Principal Investigator | Henry Harlow   |
| Institute                   | University of Wyoming, Department of Zoology   |
| Project Title / Grant #     | Adaptive long-term fasting in land- and ice-bound polar bears: coping with ice loss in the Arctic? (0732713) |
| NSF Program and Manager     | NSFOD\OPP\ARC\ANS, Dr. Brendan Kelly   |
| PFS Project Manager         | Marin Kuizenga   |

### Logistics Summary

The researchers will study bears at the beginning of the ice-retreat period in the summer, and shortly before annual ice is re-formed in autumn, along the Beaufort Sea coast during field seasons in 2008 and 2009. The goal of the study is to establish whether polar bears that follow the pack ice north of the continental shelf experience food deprivation, and to estimate their ability for prolonged adaptive fasting and skeletal muscle protein and strength retention in comparison with land-bound bears.

In 2008, a team will base from Prudhoe Bay for a two-phased field effort to capture and study land-based bears along the shore of the Beaufort Sea. Using helicopter support to reach their subjects, the team will capture, tag (with GPS radiocollars), collect samples from and assess 12 or more bears after the annual sea ice break-up, in August. The team will return in early October to recapture and study some subset of their sample population (~ 8) before the formation of annual sea ice. The team will do some sample preparation/analysis and data processing in the field.

For 2008 and June 2009, USGS will assist with all operations including costs related to their own room and board. USGS also will cover remote fuel costs at Barter Island and Lonely. The USFWS will provide an R44 helicopter to assist with gear transport and animal spotting. The USFWS will also provide a spotting plane. Work in May 2009 will be provided at no charge by the USGS, if the research team chooses to capture bears in the spring.

CPS (formerly VPR) will provide helicopter support, lab space with power and water, a chest freezer for sample storage, lodging and per diem, communications equipment and vehicle rental as well as covering the cost for the oilfield Unescorted training.

For October 2009, the PI will arrange logistics and ship costs directly with the USCG. Support for helicopter work aboard the icebreaker is TBD.

For the complete CPS online project record for this grant, including science objectives, go to: [http://www.vecopolar.com/arlss\\_reports/arlss\\_projectsdetail.asp?cbPropNum=0732713](http://www.vecopolar.com/arlss_reports/arlss_projectsdetail.asp?cbPropNum=0732713)

## SECTION TWO: SEASON FIELD PLANS

### Outstanding Actions and Notes

| Issue   | Responsibility     | Date Completed |
|---|--------------------|----------------|
| Review support plan for accuracy and distribute to all field team members     | PI                 | 7/11/08        |
| Visit all hyperlinks and review all documents referred to in the support plan | Field Team Members | 7/11/08        |

|   |  |                                |
|---|--|--------------------------------|
| Obtain all necessary permits for fieldwork  | PI   | Submitted                      |
| Complete Critical Success Factors   | PI   | 7/11/08                        |
| As the shipper of hazardous substances, you are legally responsible for declaring, documenting, and packaging hazardous materials in accordance with all applicable state and federal laws. | PI – Note CPS can assist if we have details. | 7/11/08                        |
| Ship all research gear to Prudhoe (see address below). Please provide CPS with email/list of items shipped and tracking numbers.  | Ben-David/Harlow                             | 7/11/08                        |
| USGS will provide fuel at Lonely and Kaktovik as necessary.   | USGS   | Note                           |
| Bring sat phone to Prudhoe  | CPS  |                                |
| Determine start date for October flight ops – helicopter likely available October 5 <sup>th</sup>   | PI   | As per helicopter availability |
| CPS can cover the cost via direct bill of the North Slope Unescorted training <a href="http://www.nanants.com/partners/nstc.php">http://www.nanants.com/partners/nstc.php</a>               | CPS  |                                |
| Please note – Present NSF budget is for 22 user and truck days in Prudhoe. If air operations extend beyond August 23 <sup>rd</sup> , CPS will need to contact NSF.                          | All  | Note                           |

## Allocations and Services

### Allocations from CH2M HILL Polar Services Inventory

| Quant/Unit | Item          | ID Number |
|------------|---------------|-----------|
| 1 ea       | Iridium phone |           |

For more information on satellite phones, radios, manuals and other field communications support, please visit the CPS communications website at <http://vpr.sri.com>.

### Other Services

| Quant/Unit | Item   | Notes  |
|------------|--|--|
| 1 ea       | Freezer unit                                 |  |
| QTY        | Lab space with water                         | Bald Mountain Air – see Appendix   |
| QTY        | Assistance with lab gear                     | CPS will fill 3ea carboys with deionized water and drive them to Prudhoe by August 2 <sup>nd</sup> . CPS will assist with transport (FAI>Prudhoe) of gasses. |
| QTY        | Gear storage                                 | As needed between campaigns  |
| QTY        | Medical kit with remote telemedicine service | See RMI, below   |

### Accommodations

| Quant/Unit | Item                   | Notes   |
|------------|------------------------|---|
| 176 days   | Lodging in Prudhoe Bay | Arctic Caribou Inn <a href="http://arcticcaribouinn.com/">http://arcticcaribouinn.com/</a><br>22 days each in August and October for 4-person team. |

### Air Support

| Type       | Location    | Date                       | Comment  |
|------------|-------------|----------------------------|--|
| Helicopter | North coast | August/<br>October<br>2008 | Via AMD, Maritime Helicopters Long Ranger. Budget includes 14 working days, 7 weather days, plus mobilization. |

CPS will develop a flight plan for you and your pilot, with more details on your air support.

### Support from Other Agencies

CPS is aware of the following support provisions by other agencies. This list is likely incomplete, and CPS has no management or oversight of these items.

| Type           | Agency | Comment  |
|----------------|--------|--|
| Fixed wing     | USFWS  | For animal spotting  |
| R44 helicopter | USFWS  | Gear transit and animal spotting                                   |
| Remote fuel    | USGS   |  |
| Room and board | USGS   | Will absorb costs associated with meals/lodging for USGS personnel |

### Truck Support

You are responsible for your own fuel. Like all rental agencies, the vehicle we provide you needs to be returned clean, with a full tank of gas. Let us know if your vehicle will be dropped off late, or at a location other than where you picked it up. For more information regarding your vehicle contact:

[matt@polarfield.com](mailto:matt@polarfield.com)

| Pick Up | Drop Off | # Days | Comment |
|---------|----------|--------|---------|
| August  | August   | 22     |         |
| October | October  | 22     |         |

For the duration of your CPS-provided truck rental, you are covered by CPS automobile insurance. Please carry a copy of the following information with you. **If you are involved in an accident, please take photos and contact the Alaska Logistics Manager.**

|  |  |
|--|--|
| Name Insured:<br>CH2M HILL Polar Services<br>9191 South Jamaica Street<br>Englewood, CO 80112-5946<br>303.771.0900 | Producer:<br>Marsh USA Inc.<br>1031 West 4 <sup>th</sup> Street<br>Anchorage, AK 99501<br>907.276.5617<br>Policy - #BAP837851613 |
|--|--|

This statement is issued for information purpose only and is subject to terms, exclusions, and conditions of such policy.

### Support Schedule

| Date         | Location    | Activity  |
|--------------|-------------|---|
| August 6-7   | Barrow      | Helo completes <i>Healy</i> loading/ mobs to Prudhoe Bay                                    |
| August 8     | Prudhoe Bay | First working day   |
| August 13-14 | Barrow      | Helicopter in BRW for AMD work with <i>Healy</i>  |
| August 30    | Prudhoe Bay | Last possible day of helo ops   |
| October 1    | Prudhoe Bay | Start of helo ops – actual dates TBD. Note AMD off-load/on-load scheduled for October 1,2,3 |

### Field Team Information

| Name             | Location    | Date In | Date Out | Email  |
|------------------|-------------|---------|----------|--|
| Amstrup, Steven  | Prudhoe Bay | 8/2/08  | 8/31/08  | <a href="mailto:samstrup@usgs.gov">samstrup@usgs.gov</a>     |
| Durner, George   | Prudhoe Bay | 8/2/08  | 8/31/08  | <a href="mailto:gdurner@usgs.gov">gdurner@usgs.gov</a>       |
| Harlow, Henry    | Prudhoe Bay | 8/2/08  | 8/31/08  | <a href="mailto:hharlow@uwyo.edu">hharlow@uwyo.edu</a>       |
| Regehr, Eric     | Prudhoe Bay | 8/2/08  | 8/31/08  | <a href="mailto:Eric_Regehr@fws.gov">Eric_Regehr@fws.gov</a> |
| Ben-David, Merav | Prudhoe Bay | 8/2/08  | 8/31/08  | <a href="mailto:bendavid@uwyo.edu">bendavid@uwyo.edu</a>     |

|                     |             |         |          |  |
|---------------------|-------------|---------|----------|--|
| Whiteman, John      | Prudhoe Bay | 8/2/08  | 8/31/08  | <a href="mailto:jwhitema@uwyo.edu">jwhitema@uwyo.edu</a>     |
| Amstrup, Steven     | Prudhoe Bay | 10/1/08 | 10/21/08 | <a href="mailto:samstrup@usgs.gov">samstrup@usgs.gov</a>     |
| Durner, George      | Prudhoe Bay | 10/1/08 | 10/21/08 | <a href="mailto:gdurner@usgs.gov">gdurner@usgs.gov</a>       |
| Harlow, Henry       | Prudhoe Bay | 10/1/08 | 10/21/08 | <a href="mailto:hharlow@uwyo.edu">hharlow@uwyo.edu</a>       |
| Regehr, Eric        | Prudhoe Bay | 10/1/08 | 10/21/08 | <a href="mailto:Eric_Regehr@fws.gov">Eric_Regehr@fws.gov</a> |
| Ben-David,<br>Merav | Prudhoe Bay | 10/1/08 | 10/21/08 | <a href="mailto:bendavid@uwyo.edu">bendavid@uwyo.edu</a>     |
| Whiteman, John      | Prudhoe Bay | 10/1/08 | 10/21/08 | <a href="mailto:jwhitema@uwyo.edu">jwhitema@uwyo.edu</a>     |

**Research Team**

| Role                   | Name            | Email  | Phone / Fax                |
|------------------------|-----------------|--|----------------------------|
| Field Coordinator      | Steven Amstrup  | <a href="mailto:samstrup@usgs.gov">samstrup@usgs.gov</a> ;<br><a href="mailto:steven_amstrup@usgs.gov">steven_amstrup@usgs.gov</a> | 907.786.3424 /             |
| Co-PI                  | Merav Ben-David | <a href="mailto:bendavid@uwyo.edu">bendavid@uwyo.edu</a>   | 307.766.5307 /             |
| Principal Investigator | Henry Harlow    | <a href="mailto:hharlow@uwyo.edu">hharlow@uwyo.edu</a>   | 307.766.3321 /307.766.5625 |

**Gear Shipping Address (for SRI equipment)**

|                      |
|----------------------|
| CPS Fairbanks office |
|----------------------|

## SECTION THREE: CPS CONTACT INFORMATION

**CPS Team Members**

| Contact for        | Name           | Email  | Primary Phone(s)            |
|--------------------|----------------|--|-----------------------------|
| Alaska operations  | Marin Kuizenga | <a href="mailto:marin@polarfield.com">marin@polarfield.com</a> | Fairbanks: 907.590.0755     |
| Alaska operations  | Naomi Whitty   | <a href="mailto:naomi@polarfield.com">naomi@polarfield.com</a> | Fairbanks: 907.590.3954     |
| Alaska operations  | Matt Irinaga   | <a href="mailto:matt@polarfield.com">matt@polarfield.com</a>   | Fairbanks: 907.978.0564     |
| Sat phones & comms | Roy Stehle     | <a href="mailto:roy.stehle@sri.com">roy.stehle@sri.com</a>     | Menlo Park:<br>650.859.2552 |
| RMI                | Kyli Olson     | <a href="mailto:kyli@polarfield.com">kyli@polarfield.com</a>   | Denver: 303.489.2151        |
| Denver operations  | Jill Ferris    | <a href="mailto:jill@polarfield.com">jill@polarfield.com</a>   | Denver: 720.320.6155        |

**CPS Offices**

| Denver   | Fairbanks  |
|--|--|
| CH2M HILL Polar Services<br>Western Office<br>8110 Shaffer Parkway, Suite150<br>Littleton, CO 80127<br>Tel: 303.984.1450/1439<br>Fax: 303.984.1445 | CH2M HILL Polar Services<br>Alaska Office<br>2325 King Road<br>Fairbanks, AK 99709<br>Tel: 907.455.4214<br>Fax: 907.455.4126 |

**Other**

| Organization   |   | Phone          |
|--|---|----------------|
| Remote Medical International   | <a href="http://www.remotemedical.com/">http://www.remotemedical.com/</a> | 1.206.734.3430 |
| YOUR NAME/PROJECT<br>c/o Bald Mountain Air Service<br>100 Main Street<br>Prudhoe Bay, AK 99734 | <b>Shipping address for<br/>Deadhorse</b>                                 | 907-670-1052   |

## SECTION FOUR: SAFETY, ENVIRONMENT, HEALTH and PERMITS

### Permits

Researchers are responsible for all permits required to conduct fieldwork. Please visit <http://www.polar.ch2m.com/> and navigate to Alaska > Permits for more information regarding this topic.

### Remote Medical International (RMI) Support

If you need medical advice/assistance, don't hesitate to contact Remote Medical International (RMI) using the card included with the medical kit or the information below. Be sure that each team member knows where the kit is located and understands how to use the RMI service in the field. For further information on RMI, please visit our Web site <http://www.polar.ch2m.com/> and navigate to Medical>Remote Medical Services/Kits.

RMI contact information:  
Phone: 206.734.3430  
Member ID: CH2M HILL Polar Services

### Critical Success Factors

Please list the support factors that are most important for the success of your science. We track these factors in order to measure the success of CPS' support. Examples might be the availability of the helicopter or camp gear.

| Factors              |
|----------------------|
| Helicopter operation |
| Lab space            |

### Government Performance and Reporting Act of 1993 (GPRA)

NSF/OPP requires your help in complying with the Government Performance and Reporting Act of 1993 (GPRA). One measure of CPS' performance is a "facility-performance metric" which counts the number of productive days your project has in the field while relying on CPS facilities or support. Please keep track of any "lost days" and report these to us at the end of the season.

### Appendix

#### Work space in Prudhoe Bay/Deadhorse

CPS will provide a rented ATCO trailer at Bald Mountain Air, just off the airstrip in Deadhorse, Alaska. The trailer has three available 10' x 12' spaces for the project's use. CPS will convert one of the rooms into a "lab" and design and install a simple water system consisting of a 10' x 24" countertop with double sinks. Water will be provided from a 5 to 10 gallon tank and either be gravity fed or with a foot or electric pump. Waste water will be collected beneath the sink in a 5-10 gallon cistern. Fresh water will be available from the Bald Mountain Air office/housing which is located next door (~ 50'). The waste water may also be disposed of there. In addition to the water system, CPS will provide several folding tables, 7 cu ft chest freezer, shelving, lamps and chairs. The other two rooms of the ATCO may be used for storage and work space. The entire ATCO is heated and with electricity. There is no phone or Internet connectivity. Depending on the provider, cell service is available in Deadhorse.