

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), and your group, documenting the logistics support you will receive.

## PROJECT INFORMATION

<b>Lead Principal Investigator</b>	Jeffrey Welker
<b>Institute</b>	University of Alaska, Anchorage, Environment and Natural Resources Institute
<b>Project Title / Grant #</b>	Mechanisms and feedback consequences of shrub expansion following long-term increases in winter snow depth in northern Alaska: a legacy for IPY (0612534) <b>AND</b> IPY: Collaborative Research: Study of arctic ecosystem changes in the IPY using the International Tundra Experiment (0632184)
<b>NSF Program and Manager</b>	NSF/OPP ANS, Dr. William Wiseman <b>AND</b> NSF\OPP\AON, Dr. Martin Jeffries
<b>PFS Project Manager</b>	Dana Truffer Moudra

*Note: This plan documents support for the PI's Alaska research, covering both grants described above. CPS has documented support for work in Greenland in a separate plan.*

## LOGISTICS SUMMARY

**0612534** This project's researchers will conduct studies in tussock tundra near Toolik Field Station to better understand the specific mechanisms responsible for increased shrub growth, and associated impacts and feedbacks to abiotic systems (e.g., soil, water, and temperature), and how these feedbacks may in turn affect climate. By establishing 9 small snow fences (1 m x 15 m) in the fall of 2006, the researchers will be able to better identify the specific facets of deeper snow accumulation that stimulate and enable shrub expansion, including warming winter soil temperatures, added meltwater in spring and changes in growing season length.

After an abbreviated field season during fall, 2006, which included two campaigns at Toolik Lake (Sept and Nov), two researchers will spend ~ May to October at the station for the duration of the grant. They also will make two trips off-season to make winter measurements and to download the project's data loggers.

In 2009, after short visits in mid-January and mid-March made via trucks driven from Prudhoe, the main field season will stretch from late May through late August. During this period, a team of three will work at the station, collecting and processing samples and making other measurements. Two more personnel will make trips of about one week's duration to Toolik each month from May through September, at which point the PI will remove project instruments. Field work will end in fall of 2009.

For each year of this grant, IAB will provide access to infrastructure and resources at Toolik Field Station. CPS will pay for Toolik Field Station user days and truck days. The PI will pay for all costs associated with the restart of the 0221606 warming experiment.

**0632184** This collaborative project is composed of the following: 0632277 (Oberbauer, Florida International University, LEAD), 0632184 (Welker, UAA), 0632144 (Klein, CSU) and 0632263 (Hollister, GVSU). The research represents the US contribution to an international effort to remeasure sites in the International Tundra Experiment (ITEX) during IPY. The researchers will revisit ITEX sites at Toolik Lake, Barrow, and Atkasuk, Alaska; Thule, Greenland; Niwot Ridge, Colorado; and the Tibetan Plateau, China.

For the Welker component of the collaboration, from 2007-2009 a team of 3 will spend mid-May to mid-September at Toolik Field Station. The PI also will conduct field work in Greenland, but the plan to support that work is documented in a different season plan.

IAB will provide access to infrastructure and services at Toolik. CPS will provide user days and vehicle rentals.

For the complete CPS online project record for this grant, including science objectives, go to:  
[http://www.polar.ch2m.com/arlss\\_reports/arlss\\_projectsdetail.asp?cbPropNum=0612534](http://www.polar.ch2m.com/arlss_reports/arlss_projectsdetail.asp?cbPropNum=0612534)

## OUTSTANDING ACTIONS AND NOTES

Issue	Responsibility	Date Completed / Comment
Review support plan for accuracy and distribute to all field team members	PI	
Visit all hyperlinks and review all documents referred to in the support plan	Field Team Members	
Obtain all necessary permits for fieldwork	PI	

## ALLOCATIONS AND SERVICES

Note: Because the PI intermingles the work done for his two grants, sharing field teams and other resources, CPS has combined the allocations for both projects in the following tables.

### Accommodations

Quant/Unit	Item	Notes
8 user days	March 16 – 20	2 persons at Toolik, <a href="http://www.uaf.edu/toolik/">http://www.uaf.edu/toolik/</a>
14 user days	April 30 – May 7	2 persons
337 user days	May 4 – Aug 20	8 persons, not all at the same time (see below)
??	Sep field work	

### 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:

Pick Up	Drop Off	# Days	Comment
March 16, 3:30pm	March 20, 2pm	5	Prudhoe
TBD – Sep	TBD – Sep	5	(note: PI has a total of 10 truck days allocated for 2009)

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: CH2M HILL Polar Services 9191 South Jamaica Street Englewood, CO 80112-5946 303.771.0900	Producer: Marsh USA Inc. 1031 West 4 <sup>th</sup> Street Anchorage, AK 99501 907.276.5617 Policy - #BAP534531802
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(This statement is issued for information purposes only and is subject to the terms, exclusions, and conditions of the policy.)

## SUPPORT SCHEDULE

Date	Location	Activity
March 16 – 20	Toolik	Winter flux
April 30 – May 7	Toolik	Late winter flux experiments
May 4 – August 20	Toolik	Spring and growing season experiments
TBD Sep	Toolik	Fall experiments

## FIELD TEAM INFORMATION

Name	Location	Date In	Date Out	Email
Paddy Sullivan	Toolik	March 16	March 20	<a href="mailto:anpfs@uaa.alaska.edu">anpfs at uaa.alaska.edu</a>
		April 30	May 7	
		July 13	July 20	
		Sep ??	Sep ??	
Robert Pattison	Toolik	Apr 30	May 7	<a href="mailto:anrrp@uaa.alaska.edu">anrrp at uaa.alaska.edu</a> or <a href="mailto:rpattiso1@hotmail.com">rpattiso1 at hotmail.com</a>
		June 11	June 22	
		Aug 3	Aug 10	
Joe Carvalho	Toolik	May 4	May 21	
Lina Taneva	Toolik	May 21	Jun 4	<a href="mailto:lina.taneva@gmail.com">lina.taneva at gmail.com</a>
		Aug 13	Aug 20	
Lisa Ebbs	Toolik	May 21	Aug 20	
Andy Anderson	Toolik	May 21	Aug 20	
Emily Dynes	Toolik	Jun 11	Aug 10	
Jeff Welker	Toolik	Jul 13	Jul 20	<a href="mailto:afjmw1@uaa.alaska.edu">afjmw1 at uaa.alaska.edu</a>
Andrew Kulmatiski	Toolik	Jul 13	Jul 20	

### Research Team

Role	Name	Email	Phone / Fax
Co-PI	Patrick "Paddy" Sullivan	<a href="mailto:anpfs@uaa.alaska.edu">anpfs at uaa.alaska.edu</a>	907.786.1270 /
Co-PI	Bjartmar Sveinbjornsson	<a href="mailto:afbs@uaa.alaska.edu">afbs at uaa.alaska.edu</a>	907.786.1366 /907.786.4607
Principal Investigator	Jeffrey Welker	<a href="mailto:afjmw1@uaa.alaska.edu">afjmw1 at uaa.alaska.edu</a>	907.257.2701 /907.257.2707

## PROJECT CONTACT INFORMATION

### CPS Team Members

Contact for	Name	Email	Primary Phone(s)
Alaska operations	Marin Kuizenga	<a href="mailto:Marin@polarfield.com">Marin at polarfield.com</a>	Fairbanks: 907.590.0755
Alaska operations	Naomi Whitty	<a href="mailto:Naomi@polarfield.com">Naomi at polarfield.com</a>	Fairbanks: 907.590.3954
Alaska operations	Matt Irinaga	<a href="mailto:Matt@polarfield.com">Matt at polarfield.com</a>	Fairbanks: 907.978.0564
Alaska operations	Dana Truffer-Moudra	<a href="mailto:Dana@polarfield.com">Dana at polarfield.com</a>	Fairbanks: 907.388.2498
Denver operations	Jill Ferris	<a href="mailto:Jill@polarfield.com">Jill at polarfield.com</a>	Denver: 720.320.6155

**CPS Offices**

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

**Other**

Organization	Internet	Phone
CH2M HILL Alaska Region of Energy Services and Operations (ESO), truck rentals - Contact Debbie Ross or Bob Preston. Call dispatch if Debbie and Bob aren't available.	<a href="mailto:Debra.Ross@ch2m.com">Debra Ross at ch2m.com</a> <a href="mailto:Bob.Preston@ch2m.com">Bob Preston at ch2m.com</a>	Debbie Ross 907.659.3308 Bob Preston 907.659.3359 Dispatch 659.3313

## SAFETY, ENVIRONMENT, HEALTH and 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.

## 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
Truck days

## GOVERNMENT AND PERFORMANCE 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.