**Results of one-on-one calls with SEARCH SSC members**

Compiled 22 June 2012

*All SSC members were interviewed except for S. Crate (on travel)*

The bullets under each question below are pasted from Helen’s notes from each phone call. Helen’s notes after each call were sent to the respective SSC member before compiling this document to ensure accuracy.

**1.  Imagine we are talking in 2015 about SEARCH and answer the question: "What is SEARCH"?**

* It is an entity doing whatever it takes bringing arctic science to the next step
* It integrates among disciplines (e.g., with integrated goal topics)
* Facilitating connections between disciplines, between agencies and scientists (education, communication, organizing)
* Help coordinate agencies
* Helping in the transformation of how scientists work – before, collaborations would be with other people w/same backgrounds, working on same scale
* Would be akin to a “central brain” of a scientific network, knowing what everyone is doing (but not controlling what is done)
* Ideally, SEARCH would in fact be the coordinating body, or “bridge” for the research community to/among all the agencies that have an interest in the Arctic (and assumption it would remain a US-centered effort)
* It has named SEARCH projects/efforts that last 5-10 years
* SEARCH ‘lobby’ to get money on the table to do specific projects. Synthesis would be part of the SEARCH portfolio, but not the main nor only thing SEARCH did.
* Addresses the issue of the rapidly changing arctic and impacts (and not just impacts to the Arctic, but teleconnections to other regions)
* A focus on interdisciplinary approach – including sharing data, contributing to analyses
* Synthesis could be a strength of SEARCH
* One “model” (though perhaps impossible to get done in the US) is the Australian Cooperative Research Centres (CRC’s) - collaboratives between industry, government agencies, stakeholders: <https://www.crc.gov.au/Information/default.aspx> - link researchers and research users.
* Would have a broader conceptualization of “stakeholders” than what we have now – it’s not just interacting with Alaska native villages, for example. The broader public is an important stakeholder group, including those directly involved with crafting state or national policy. Public policy is shaped by what the public perceives. This could be a unique role for SEARCH.
  + E.g., Big scale physical changes and teleconnections – these are the issues that people are more inclined to care about than impacts that seem confined to the Arctic. Helping the public understand these connections could be a more expanded SEARCH role."
* SEARCH is a U.S. government supported organization which (1) organizes and supports arctic science research programs and workshops, (2) coordinates research planning and objectives among government agencies, (3) facilitates interactions between arctic researchers, and (4) provides information to researchers about ongoing projects, planned funding initiatives, and resources for research (e.g., data and information management).  SEARCH also serves as a conduit from researchers to funding agencies, and functions to synthesize research community input and provide this input directly to funding agencies.
* Synthesized science of arctic/climate change
* Acts as 2-way conduit – from researchers to funding agencies, and in part from agencies back to researchers. Synthesized information from research community: ‘this is what the research community wants to do next’. Then from agencies to research community: “this is what ONR’s plan is”, or “this agency meeting is planned”.
* Some in the community say “SEARCH should be just like CLIVAR or PALE”, but SEARCH should not be another program like that, or else our approach to arctic science would be very piece-meal – no one would know how it’s all related. What we still lack is some *synthesis* of arctic research. People have a hard time seeing beyond their discipline. But we need synthesis at the higher level – white house, OSTP, congress – we don’t need it at the individual researcher.
* SEARCH as the go-to place for arctic synthesis/arctic science
* What we need to do for the arctic is the same thing that the physics and astronomy communities have been doing – they agree on items like “we want a certain telescope”, etc. They understand not everyone will get what they want. That is what SEARCH can provide in the form of synthesis – what do we need in the arctic right now.
* In the best of worlds, SEARCH can serve as intermediary between all the groups. Meetings between representatives of the groups. – e.g., ‘can we modify x plan so that we have a united front’? Outcome of this would be more consistent front showing needs at highest levels. Then this could also trickle down to the funding/program manager level; more coordinated research plans.
* Need to sell to USARC, IARPC that they need us.
* Would like to be able to say SEARCH has widespread support of multiple agencies
* Effective at fulfilling needs of not only science community, but mission agencies
* Forum where needs of IARPC agencies are fulfilled
* Do not see SEARCH as trying to survive for its own good
* SEARCH as a forum for the northern communities to communicate their science needs
* SEARCH is an interagency program to support and coordinate arctic environmental change research
* SEARCH emphasizes the interdisciplinary nature of processes leading to arctic change by supporting synthesis activities to summarize the evolving state of knowledge and to expose gaps
* SEARCH acts as a conduit for successfully connecting science to planning and decision making needs of regional stakeholders, agencies and the public to ensure the immediate usefulness of science
* SEARCH translates the state of Arctic system understanding to the public and offers insight into past - present - and future
* 2 pathways: 1) the state we had before, where the community identifies need (e.g., AON), community writes white papers/plans – agencies see these needs and write general AO’s; somewhere in text it could say ‘for activities such as SEARCH’. Can be ‘SEARCH related’. 2) Then the other pathway, which would be more successful –agencies recognize SEARCH as an instrument where they can get to where they want to be (products/etc.) – may not be as relevant for NSF, but other agencies could fund specific working group activities to develop decision-support products.
* Need multi-agency recognition of SEARCH’s role.
* When we say coordinate, we have to actually coordinate something – not just write something saying ‘we think it would be good to do X’. But to do real coordination, we need funds. E.g., have workshops, synthesis activities, working group activities (meeting every year).
* SEARCH should influence the U.S. Arctic research agenda through USARC by recommending physical science research prioritized science q's, goals, and objectives in advance of their biennial 'Goals' report to Congress.  This should reflect a unified, credible voice of the science community (agency, university, etc.).
* At this point, though, it really is not clear at all what SEARCH will do
* Focus should be on *interagency* aspect – coordination, communication and cross-funding
* SSC make recommendations to USARC, IARPC
* Could recommend agencies do a NOPP-like mechanism for the Arctic
* SSC doesn’t have influence on agency funds/programs/AO’s, but should
* Need to better define who we want to represent - research community only? (e.g., SSC is primarily academic researchers). Or broader?
* Interagency research enterprise to document and understand arctic change and communicate the implications of that understanding for society to respond to that change.
* Not a single funding source – agencies get together under that umbrella and put together different RFPs. A problem in the SEARCH context, however, is that we are not sure the SEARCH agencies are “bought into” SEARCH, although we seem to be making progress and agencies are getting more involved in the arctic overall.
* Concern about leadership on the agency side – agencies have to move this forward as well.

**2. What would measures of success be?**

* More funding for integrated projects
* More publications by different types of people – as a result of SEARCH linking people together better
* Stronger link between natural science and human dimensions - this has come a long way over the past years, but we are still struggling with how to do it
* More outcomes from projects that are brought to the stakeholders (whoever those are – could be industry, people, governments). E.g., SIO as an example.
* Perhaps ask people to acknowledge SEARCH in papers resulting from SEARCH linking groups together
* One measure of success – if, for example, 5 of 6 bullets of each of different group’s plans are similar, we’ve done our job.
* People would come to SEARCH to discuss cross-cutting ideas, shop ideas- right now if a group or a researcher has a cross-cutting idea that doesn’t fit nicely into a specific NSF or other agency call, there is nowhere to go
* Would see references to SEARCH in proposals, papers, and agency documents, and SEARCH activities credited for bringing people together
* Agency dollars support SEARCH
* Would have regular SEARCH workshops that people were excited to come to (e.g., Gordon conferences: <http://www.grc.org/about.aspx>, LTER meetings.)
* Most scientific programs are assessed by a few strikingly successful research projects - e.g., SHEBA, Greenland Ice Sheet – SEARCH needs this -- a few paradigmatic research examples that we can point to
* SEARCH must have several (3-5) "priority goals" at any one time that provide a focus for many of SEARCH’s activities, such as planning and science workshops.  These goals have timeframes (2-5 years) for completion or progress, and part of SEARCH’s role is to help coordinate the formulation of new goals in a "running format" where new initiatives replace completed ones.  Some SEARCH activities such as reports and clearinghouse information are ongoing, and "success" in these activities would be measured by how much the community uses the products.
* Running set of 3-5 goals at any one time. A little unclear to me how to deal with the problem of people wanting to see their own work in a goal – so anything that pleases everyone is so broad that is a 50-year goal. Can have a broad goal, but have to say ‘in 5 years, have to do this first’. Problem is that we really don’t have a model for this, b/c we haven’t done anything other than AON.
* Meeting needs of various groups - mission agencies, northern communities
* $X number of dollars of SEARCH science – a number of projects; a few under each of the goals those are branded as SEARCH
* Agencies working together to move SEARCH forward and seeking input from the scientific community (as represented by the SSC)
* Good connection to other groups, such as LCC’s
* Recognized for its balance in supporting basic observations and science while serving the needs of stakeholders, agencies and the public
* Measures of success – reports/workshops – but also has to translate to funding initiatives in agencies. All we’ve had for AO’s on SEARCH is AON
* Active working groups in each of the goals with sub-groups organizing assessments and syntheses of components
* Regular high-profile “deliverables”: regular workshop on Arctic change scenarios and its challenges
* High-profile review papers
* Individual goals work towards a data integration capability for a “Quantitative State of Arctic” Report
* Better coordination with other programs (national, international)
* Example – there would be an interagency arctic-NOPP – a call w/money from all agencies, once every 3 years. Maybe more mission-driven than people are used to
* Coordinated funding from more than one agency on some targeted topic that was recommended from SEARCH
* Biggest measure of success would be agencies really working together to move SEARCH forward in a pro-active way – that’s the bottom line. They would be actively holding meetings a couple of times a year, with several very engaged agency representatives, to see what kinds of opportunities/synergies they can achieve. And have to people who can do actionable things – program manager level.
* AO’s (and cross-agency AO’s) would be one aspect. In some cases it might be that the agencies contribute to SEARCH through ongoing programs to advance goals/objectives.
* If the agencies don’t do anything with the goals/objectives pro-actively, then we’ve wasted a lot of time; need leadership on agency side.
* AON and Understanding will be better linked – understanding will be driving observations and feeding back into understanding

**3.  How would agencies be involved?**

* Agencies give feedback along the way as things move along; especially mission agencies as far as what they need from the science
* Need SEARCH-branded AO’s
* The SSC having a different form – in an ideal world, the SSC would become a group of people that were representative of both the agencies and the research community, as well as industry.
* SSC populated with agency reps or delegates that have authority for decisions and funding
* NSF has kept SEARCH at arms length –SEARCH isn’t even mentioned in relevant AO’s - this severely limits our ability to get “shovels in the ground”. If we don’t have that, we can’t get beyond science planning stage.
* Cross-agency hasn’t worked in practice
* [they would be involved] more than they are now
* One option is that we have the IPMC and they interact with SEARCH, interact with each other, and interact with IARPC – with all its own set of rules, when they meet, who is there. But every layer of administration we have takes us further away from getting anything done. The better solution is to not have that layer of organization – no reason to have the IPMC.
* SSC needs to think big – e.g., we want to talk to White House (and OSTP) – “we want 3.5 minutes with the president saying why arctic research is important.” That is how we are going to get things done
* Right now we have a good set up with IARPC.
* Somehow, we also need agency representation (program manager level) within the SSC. Must also make the program manager understand that SEARCH is a way to get their agency director’s ear for their Arctic programs.
* Multiple calls from different agencies coming together for funding SEARCH activities
* Agencies look to SEARCH to help identify areas where efficiencies can be found; also look to SEARCH for working with northern communities
* Agencies need to work together on SEARCH; cooperation will benefit all; also has to be done quicker – as we (our responses) are already far behind the rate of change
* Directives should come down from the IARPC level to the program-manager level and those who write the RFPs
* Agency recognition of SEARCH and its role
* Regular agency contact with SEARCH (monthly at least)
* Actual multi-agency funding
* Sustained budget (5yr+) for a central program office and its activities
* Identified agency connection to ongoing SEARCH activity through program manager involvement
* Develop a path how the community with SEARCH can request calls. We can’t write a call for SEARCH, but SEARCH can write a short (2-5 page) position paper on the “need for x”, coming from working groups, reviewed by community, etc., and then handed over to the agencies.
* One concrete way forward – agencies and SSC put together implementation plans for each goal w/input from the science community; then agencies are clear on how they will support the implementation plan.
  + This should lead to AO’s and other mechanisms to implement SEARCH activities.
* Perhaps a more realistic expectation for SEARCH would be more limited as an implementation arm of NSF, which is basically what it has been – b/c turning agencies like NASA and DOE around is really difficult and driven by personalities that didn’t get to where they are by “joining clubs”. Even in 10-year time scenario, it can be really hard to get agencies to come to the table and coordinate
* Work with the IPMC and the IARPC working-level folks for implementationconsideration on shorter time frames or for more quick turn-around/urgent needs.

**4. What activities would SEARCH itself do (not just the SSC, but the whole program)?**

* Facilitation
* SEARCH has to be involved to be sure that tasks are accomplished; for our goals to be attained, we have to be involved – can’t just put the goals “out there” and expect significant progress; need some sort of committees/body in charge
* SEARCH representatives would need to reach out and work with groups in the community who are doing activities that would fall under one of the goals; initiate collaborations, etc.
* Identify gaps and convince agencies to fund/fill gaps
* Project management – administrative and also scientific management
* Topical workshops, white papers, though there is a lot of ‘sameness’ in white papers recently – we need to get to more specific implementation plans for activities.
* Provide a mechanism to capture the work plans for major partners and create a clearinghouse to make it easier to compare/generate opportunities.
* Communication to a broader set of stakeholders
* SEARCH would have more of a leadership role in the focus of AOs and design of projects
* Present syntheses of research knowledge to the public.
* Science conferences (such as the 2003 Open Science Meeting) – finding out what other people were doing – this is important to inter-disciplinary or synthesis research.
* Need to re-think the ‘observing/understanding/responding’ structure – that hasn’t worked very well. For responding, perhaps a move to an impacts-focus. Working groups would address more specific issues (e.g., a couple working groups just focused on an expanded Sea Ice Outlook).
* SEARCH would have various activities, some cross-cutting, some focused on 5-year goals, and some ongoing (data, information, reports, etc.)
* We are running into problems here b/c we aren’t seeing money – aren’t seeing funding for SEARCH other than AON
* To walk through an example:
  + SEARCH funds workshops, out of which working groups might form. SEARCH supports and facilitates these working groups (this takes staff)
  + Working groups that emerged out of workshops/conferences could put together ‘proposals’ in their areas of interest – these would be big ideas that are too big or cross-cutting for one agency/program/RFP, for very specific activities (e.g., what do we need to do for sea ice – this experiment in these locations).
    - These groups would be somewhere in between “ individual” and “the community”. Not just a set of funded projects that comes out of an RFP – that doesn’t work. Can’t be too big, or else the group drifts and lacks cohesion, and can’t be too small b/c each project needs a critical mass to cover the issue of concern. The ‘sweet spot’ is probably somewhere between 5 and 20 people.
    - So we wouldn’t have just 3-4 large-sized efforts, nor would be have 200 smaller, 3-4 investigator projects (which is what NSF and other agencies already produce).
  + Would develop implementation plans.
  + A steering group made up of agency decision makers, researchers, and industry –could make decisions and have access to the funds to implement.
* Need funded projects - funded projects will be centerposts of goals, otherwise we are just an internet clearinghouse. Need funded projects that SEARCH can claim and has SEARCH branding somehow (in the announcement of opportunity/etc.)
* Workshops, papers that lead to plans for funding announcements and funded projects
* For AON, for example, let’s support a synthesis/sets of synthesis papers – e.g., charge to OCP – ‘we want 5 special sections in journals and we will give you money to get together’
* Could run workshops such as Chapman conferences –people submit proposals to SEARCH to run such a conference. This makes what SEARCH does more visible, just like when people think of AGU it is a huge organization, but, it runs meetings and supports Chapman conferences, everyone knows that. Need to do the same with SEARCH.
* Can also have synthesis workshops on groups of projects, even if the initial announcement wasn’t directly SEARCH.
* Some activities will need to be competitive (e.g., like the community applying to hold conferences). For other activities, groups could come to the SSC with ideas then the SSC could discuss and shop around to agencies. Otherwise, individual researchers really have no where to go to get support for ideas that are not necessarily appropriate for writing proposals to existing AO’s.
* Advocate for items like signing law of the sea; adequate funding for icebreakers/infrastructure/coast guard. This would be a great legacy.
* Educating/advising at high levels in the agencies (these kinds of activities would require some new/different skills in the SSC to supplement current scientific expertise)
* Synthesis – with a level of funding/staff support that is meaningful to do gap analysis.
* Not just organizing workshops. Synthesis of information/data that directly helps people make decisions and deal with arctic change impacts, including the data/information that comes from LCCs
* Coordinate/synthesize observations that are coming from communities could also be very valuable – e.g., things like SIWO – helping northern communities with their challenges
* SEARCH is the pre-eminent opportunity to get the ‘full picture’ on arctic science. If we don’t do it, no one else will.
* Need communicators/educators; a more effective “marketing campaign”
* High profile reviews, synthesis papers -- a “campaign”(e.g., SHEBA campaign – multi-agency – big, coordinated); if we can think about organizing something that is a little bigger, and not just one-off. e.g., taking SIO into next generation what is lacking, where are we good - do this as a ‘campaign’ and do this over 5-10 years.
* News feeds – very quickly, very often (not a traditional newsletter). A digest once a week/every other week or so, about what is going on/coming up/new challenges. Include a section that can match science to application needs.
* Need 1-2 people for each goal – highly regarded scientifically people that really can push the community
* SEARCH needs to have ‘some big thing’
* Identify champions for each “goal” and help them develop active, goal-oriented working groups
* Support working groups through workshops, science demonstration platforms, and community-level reviews for agencies and private industry to stimulate funding
* A partnership between scientific community and agencies – SSC has role as representing interests of scientific community and agencies representing their agendas; working together to move this forward in a synergistic way
* Coordinated scenario activity : ice-free Arctic- annual meeting for advancing cross-disciplinary, quantitative impact and adaptation challenges in the Arctic
* Making recommendations – to USARC, IARPC – resulting in AO’s
* Arctic Information Center (Science Info and Education) - slides, science-updates, demonstrate applications
* Enable multi-institution video-conferencing, product development, modeling activities, community engagement
* Create a true interagency/cross-cutting funding mechanism (e.g., NOPP) – for efforts to understand the arctic – if we just did this, it would be a big success
* SSC assign some group to move each goal forward (ad hoc panels, etc.), then the SSC would track progress of various activities and promote synthesis among activities (as well as synthesis within activities/goals)
* SSC re-visit goals every 4-5 years.
* More pro-active and visible activities by the SSC -- e.g., an opinion piece for EOS
* One model of success is to pick 1 very tangible activity/product to focus on every 6 months –manageable and provides focus for the group.
* Right now, the biggest activity of the SSC is to manage the NSF AON, but it is not clear the degree to how the SEARCH SSC/OCP will manage a broader interagency AON and how the SEARCH SSC will manage other activities besides the observing end of SEARCH.
* Scheduled facilitation between agencies, community of experts, stakeholders groups, industry, etc. resulting in workshops, reports, briefings on rotating goal topics.