

## Puget Sound Partnership Strategic Science Plan

### I. Introduction (why)

This section will lay the context of this plan, the history, responsibilities, and goals of this effort. This will include past and existing science efforts in Puget Sound.

### II. Guiding Principles (overall how)

This section defines our overall philosophy, and will include lessons learned from other programs (e.g., Calfed Bay Delta Program, Chesapeake Bay Program, etc.).

- A. Need for sustained investment in science of Puget Sound
- B. Need to stimulate both:
  - 1. Incorporation of existing scientific knowledge into Action Agenda and management/policy (see figure 1)
  - 2. Derivation of new scientific knowledge on Puget Sound (see figure 1)
- C. Desired characteristics (e.g., from our SP discussion)
- D. Needs to be linked to the Partnership goals
- E. Should stimulate new technologies and approaches for ecosystem assessment.

### III. Components (what)

This section defines the component parts of the strategic science plan that will enable a scientific understanding and incorporation of such into the regional management and planning process.

- A. Monitoring (follow-up from SP discussion)
  - 1. Distributed but integrated, with an overall, coordinated strategy that is comprehensive and not redundant.
  - 2. Must be linked to PSP goals (need detail on monitoring, indicators, stressors for each goal).
  - 3. Two aspects: well-coordinated, comprehensive, sustained funded monitoring but also with access to other monitoring data/efforts that are leveraged
  - 4. Connections to permanent observing stations
  - 5. Note that there are many existing monitoring and observing programs, some of which are coordinated already
- B. Research
  - 1. Competitive process open to all
  - 2. Need for mix of directed and open focus research (short-term applications vs. long-term knowledge that will result in later application)
  - 3. Note that there is no existing Puget Sound focused research funding mechanism
  - 4. Needs external body to conduct peer review and evaluation of funding
- C. Modeling
  - 1. Competitive process open to all for targeted projects
  - 2. Development of community resources
  - 3. Note that there is an existing self-organized modeling consortium for regional marine waters.
  - 4. Note that there are numerous other regional modeling efforts needed, (e.g., terrestrial, populations, land use, economic, etc.)

- D. Input to adaptive management
  - 1. Identify explicitly how to get science input into issues
  - 2. Develop and fund Early-Action Projects and Demonstration Projects
- E. Data management
  - 1. Requirements for metadata, archival, and interoperability
  - 2. Note that there is the possibility to leverage existing efforts, including NANOOS, NOAA, and other
- F. Facilities
  - 1. Create a consortium of marine facilities (i.e., labs, docks, vessels, etc) to include existing Labs, Marine Science Centers, etc. Call these the PSP Marine Facility Consortium
  - 2. Identify in each of Action Areas
  - 3. Linked to education and outreach programs, including fellowships, K-12, and public

#### IV. Education and Outreach (what)

This section defines essential programs that assure focus on Puget Sound science continues to the next generation of scientists, to the youth in the region, and to all of the residents and general public.

- A. PSP Fellowship Program: a program that funds both graduate and post-doctoral research of direct relevance to the PSP. Have a competitive program and evaluation of proposed work.
- B. K-12 educational programs: a program leveraging the Marine Facilities in each of the Action Areas to connect with regional schools to visit the facility, understand issues of high priority to the region and be a centerpost for Puget Sound/marine environmental curricula that may be shared.
- C. Public Outreach: programs within each of the Action Areas at the Marine Facilities to engage the public on local issues and general understanding. Involve public through hands-on activities and demos from the Fellows and other scientists.

#### V. Organization (how/where)

This section defines how the components and programs described above will be functionally organized.

Each of the Components in III will require a different organizational structure:

- A. Monitoring will be distributed but coordinated through PSP or by a body that reports to PSP with guidance from SP on priorities
- B. Research will be directed through a competitive review process by an entity (preferably existing) with capability for proposal review and evaluation. Overall metrics of evaluation will be reviewed / established by the SP
- C. Modeling will be distributed but coordinated through PSP or by a body that reports to PSP with guidance from SP on priorities
- D. Data management is recommended to leverage off existing coordinated efforts currently operational or planned. Evaluate if these can satisfy requirements for metadata, archival and interoperability. Make recommendations for enhancement if not adequate.

E. Facilities will be distributed in each of the Action Areas, with member Facility Consortium partners that may receive competitive funds for enhancements but must provide capability to PSP researchers and fellows. The Consortium and its members will have an identity on the web that allows for identification of assets and capabilities within the region.

F. Input to Adaptive Management will be a program that the PSP SP develops with the ECB and will be distributed. It will identify sources of existing knowledge and link these to relevant management constructs.

G. Fellowships, K-12 science education and public science outreach programs: the efforts in each of these programs will be distributed in each of the Action Areas and coordinated by the SP, ECB, and the PSP as well as the PSP Marine Facilities Consortium members. The fellowships will be evaluated and awarded by the SP and ECB. K-12 education will be coordinated by the PSP MFC with advice from the ECB and SP. Public outreach will be coordinated by PSP, acting with each of the PSP MFC members, on advisement from the SP and ECB for priorities and accuracy.

## VI. Peer Review (how)

This section defines an essential aspect of any scientific strategy, how scientific information is reviewed for accuracy prior to publication and dissemination to a wider audience. This element has several aspects.

A. Peer review of scientific results from funded research: conducted either from journal submission or other process provided by PSP

B. Peer review of proposals for evaluation for funding: recommend using existing functionary such as Washington Sea Grant or WSU Extension, etc.

C. Peer review of science messages from the PSP: conducted by the Science Panel. Messages from PSP that involve scientific perspectives will be reviewed by the Science Panel for accuracy.

## VII. Science Communication (what/how)

This section defines major pathways for how information is communicated to wider audiences.

A. Communication to science community:

1. Peer reviewed publications from any PSP funded research

B. Communication to science, management and interested communities

1. Puget Sound-Georgia Basin Research Conference

2. Puget Sound Update

C. Communication to general public

1. Website section

2. Newsletters? (2x/year?)

3. Television, Documentaries, local cable broadcasting

Will need to include elements of “when” (e.g., schedules, frequency, etc.)