

Seaquaria Think Tank

October 26, 2006

Present: Cathy Carolsfeld, Yogi Carolsfeld, Don Lowen, Tanya Brain, Laureen Brain, Anne Genuist, Jean Belanger, Sarah Board, Daphne McNaughton, Angus Stewart, Patsy McCarter, Melanie Kennedy, Mary Holmes, Giuliano Reis, Lori Burley, Nikki Wright, Kitty Lloyd, Eileen van der Flier Keller, Laura Hogan, Judy Ashurst, Andrea King, Dawn Christy, Bev Ross, Kirsten Brooks, Lenny Ross, Calvin Parsons, Alison McNaughton, Elli Reilander, Jeremy Hacket, Kelsy (Esquimalt HS Cook's Training Program), Rosa (Tillicum Elem.), Sheena (Marigold Elem.)

Action Outcomes from Meeting: our own autobiographies would be helpful for research and our teaching practice (What is it that makes us think differently about the environment that changes our behaviour?). Tank Schematic: assign a capable student the task, fax copy to Cathy and Yogi. Questionnaire (teachers and students versions) - do every year (aids in monitoring progress and in funding). Group website (Mary & Cathy) in progress? Develop electronic lesson plan (Lori, Cathy, Mary, ?? who else ??). Children friendly resource material (Cathy and Elli with group input) Networking: Inter-school visits (please share with us). Seaquarian Anthem?

Welcome: (Cathy) Special thanks to Shoreline for hosting, Esquimalt HS for the great spread (food), Don Lowen for being instrumental in securing funding for six new schools to join our network and Giuliano Reis for video documenting this session (as with previous Think Tanks)

Seaquaria Shaw Cable DVD (2003) Showcases *Seaquaria in Schools* mentoring program at Vic West Elementary. This has been very effective in getting PACs (parents) on board.

Reasons for Coming Together: networking – e.g. all of us, with SeaChange field programs (remember beach and watershed model programs for workshop participants), find potential links with Earth and Ocean Sciences; support (providing and receiving); to learn – about technical aspects, trouble shooting, tank maintenance, background material, getting whole school on board, new ideas, resource materials, for enrichment, integrative learning; sharing; explore opportunities for acquiring a *Seaquarium* for a school; explore opportunities for exchange and pairing of classes between Canada and Brazil.

Review of Progress: growth from 3 to 13 schools since 2001 with funding for 6 more available this year. Growing network: new schools, NGOs i.e. SeaChange (with support for material resources and program delivery), Watership Foundation, Pacific Salmon Foundation, World Fisheries Trust, and government agencies DFO, NSERC, Pacific CRYSTAL Project. Two Masters programs in Education undertaken by Laureen Brains (SFU) regarding the mentoring program she developed with her severe behaviour class using the *Seaquarium* as a focal tool, and Mary Holmes (UBC) in curriculum development using the *Seaquarium*.

Review of Teachers' Resource Manual: resources included in the binders: laminated invertebrate guide; beach pebble guide; Earth Sciences activity book; overview and background of the program; lesson plan ideas; program evaluation (questionnaires for teachers and students); technical information and troubleshooting guide; list of common animals and plants in tanks; preliminary list of resources; list of facilitators and other participants; VicWest Community Map.

Ellie is working on a formatted **electronic version** for distribution and posting, to encourage inter-school liaisons (field trips & classroom programs); interactive website to assist in mentoring and troubleshooting (Note: school district firewalls at times incompatible with this); EcoFest 2007 invitation to set up a Seaquarium, and possibility of participating in Catalyst conference (spring 2008)

Discussions:

Yogi (some lessons learned from his experience in Brasil): Information does not equal education: As educators, we need to find ways to engage people and motivate them to change their behaviour. Using the watershed model seems to be effective in helping people change their outlook and their behaviour with respect to the environment. We need to find ways to help people think differently, not just provide information about environmental issues. Examples: VicWest Mapping project and VicWest Visions Map. What is it that makes the children think differently? What is it that makes us think differently? (Our own autobiographies would be helpful here for Yogi's research).

Watershed Model Demo: Seaquaria in Schools is part of a broader educational program called Living Watersheds, which also includes a watershed model demonstration. Angus Stewart's interactive introduction demonstrated how to use models with students in schools, and at community events. These models are always a big draw at public events. The models provide an excellent way for children to make the connection between maps and actual landscape features. Using simulated chemical inputs (fertilizers, pesticides, motor oil, etc) participants can see a graphic depiction of how these environmental insults have far-reaching effects throughout a watershed. Programs end on a positive note by brainstorming ways that each of us can reduce our footprint (walking, biking, organic gardening, etc).

Attendees saw possibilities for teaching impacts of development and pollution, as a forum for informed planning, combination with storm drain marking, understanding the mapping process, teaching about riparian conservation, ties in with Great Canadian Shoreline Cleanup and salmon enhancement programs, and help people understand concepts around drinking water (reservoirs, ground water, aquifers – See Earth Sciences activity book in binder). EcoRowing uses a watershed model to prepare classes for their experience.

Seaquarium Session (Tankside):

Discussed Low Oxygen – changes in animal behaviour; Water Colour (a little yellowish OK) Spawning Episodes: (e.g. tubeworms, scallops, urchins); Pump Noise: Chiller efficiency – vacuum intake screen weekly; Daily checks (catch potential problems early); Access to building after hours is important; Networking to troubleshoot and remedy on your own with guidance;

Seaquarium and PLOs, Integrated Learning: Seaquarium builds connections not only to the ocean environment but also with students. These connections are particularly important with at risk students, giving many a positive reason for bringing their parents into the school. It builds connections between 'buddy classes'. It provides opportunities for children to shine. Teachers, students, parents (school community) involved in a spirit of enquiry with many opportunities to model a love of learning, encourage creative problem solving, and hone observational skills.