

Metropolitan Greenspaces
Education Grant Final Report: May 19, 1998

Summary: Due to my diagnosis with cancer I had to end the grant effort in October, 1997. We had already accomplished a great deal so I think the project was a success. Following is a copy of the original grant with revisions as to what was actually carried out. This report includes a notebook portfolio with pictures, copies and samples of lessons and student work.

Objectives and Description of Project: This was a proposal for a sixth grade class at Binnsmead Middle School to adopt Beggar's Tick Wildlife Refuge. The project will incorporate aspects of botany, zoology, microbiology, ornithology, history, and carpentry. The objectives did include classroom instruction and 3 major all-class field trips to Beggar's Tick plus many "mini-trips" in my car after school. In the classroom hands-on projects included a pond water and mud study; making nest for wood duck, 5 song bird nests and one Canadian goose nest; creating portfolios of birds and other projects indicated through the notebook portfolio. In the field the students carried out clean up projects: invasive plant removal and trash pick up. They also carried out planting of indigenous flora, erection of student-made nests, collection of observation data on birds. The class also worked in conjunction with the Fowl Weather Friends (FWF) project at Binnsmead. The FWF weatherize injured/sick birds transferred to Binnsmead by the Audubon Society Care Center, to prepare them for re-release into the wild. The estimate of birds re-release into Beggar's Tick is 3-6 fowl in '97-'98. Each semester a new class of sixth graders starts join the project.

Partners in the project and their roles: Lynn Wilson of Metro; Lynn Vandercamp of USEPA; Dale Vasnik; Joe Pesek of Dept. of Fish and Wildlife; Bob Salanger of Audubon Care Ctr; Jerome Fulton, Dick Pugh, and Gerry Nichols, secondary teachers of Portland Schools. All of these lent their expertise to the project or related areas. Some local businesses provided discounts, one high school student and a few parents helped.

Does your project have a restoration component? no yes
If yes, will you be using heavy equipment? no yes
Project period : 8 months; Beginning Jan. 1997 to Oct. 1997

Why is the project important? Expectations of population growth in the Portland area will put more pressure on the need for development. This will result in more habitat loss. It is important for young people to understand the significance of that loss and to be better informed in order to make wise decisions in the future about land use. It is also important for young people to feel empowered about environmental issues; that they CAN make a difference. And finally it is important for young people to feel like they are part of a community made up of people interested in investing in the future by participating in environmental problems of today.

Who and how many will be served? The Beggar's Tick Binnsmead Project involved

approximately 70 sixth graders, 9 eighth graders, and 1 high school student. Also participating were 3 parents on large field trips, 6 teachers, 3 community members, and five or more retail businesses. In addition, 5 people provided their expertise from organizations including the Audubon Society Care Center, Dept. of Fish and Wildlife, Friends of Beggar's Tick, Portland Environmental Services, the Tualatin Wetlands Conservancy, and Metro Greenspaces.

How will Metropolitan Greenspaces funds be used? The bigger items included bus transportation to field trips, substitute pay for the coordinator during the field trips, and materials and supplies. The latter included a spotting scope and binoculars necessary for animal observation at a distance; boots, gloves, and tools to use in accessing the wetlands and clearing invasive plants. Also necessary was wood for making bird nests and houses. Finally there will be some materials needed for teaching about birds, mammals, and other creatures of the refuge. The most of the other classroom materials needed were already on hand in M. Wanamaker's files.

Amount and sources of matching contributions committed to project: 25% discount offered by G.I. Joe's, Fred Meyer's discount of 10%; a 10% discount from the Audubon Society store; and a 10% discount at Foster Feed for a small amount of 25% from Montavilla Lumber. Matching in-kind donation time and labor from students, the teacher coordinator, and other adults. The professional services include donation of veterinary services by Doug Lewis for the Audubon Care Center (estimated for 3 birds for release into Beggar's Tick), Bob Salanger of the Audubon Care Center, and personnel from Portland Environmental Services.

#2, QUESTIONS:

A. What is the description of the project, its goals and intended results? Why is it important to undertake this effort at this time?

My proposal was called the Beggar's Tick Binnsmead Project (BTBP). Originally devised as a semester class, instead I offered a "mini" class (mini-classes were a school-wide curriculum change) called "Adopt a Wetlands" which rotated every 9 weeks and included approximately twenty-five sixth grade Binnsmead students, until the project had to be cut short. Thus a total of 70 sixth graders participated, a little more than originally estimated. The focus of the project was environmental learning within the classroom and field experience at Beggar's Tick.

The classroom goals completed:

1. Understanding the Johnson Creek Watershed and the role and value of Beggar's Tick in that watershed, hydrological principles, mapping and model making of the watershed, water quality and storm drain function. The students completed these goals. The watershed mapping and models were of a sample watershed, not B.T.

2. Creation of a bird study portfolio with emphasis on water fowl to include species identification, nesting habits, communication, diet, migration patterns, and the building of nests for swallows, wood ducks, one geese family, owls, and bluebirds. These were

accomplished except for communication and nests for swallows and owls.

3. Study of wetland animals other than birds to include identification, behavior, diet, shelter, role in the environment, and the making of bat nests. These were accomplished except for the bat houses.

4. Develop a plant press of typical wetland flora, plus a journal describing key adaptations, identification, and plant inter-relationships in the environment. This was not accomplished, except for attention to plant adaptations and their place in the food chain.

5. Laboratory work using microscopes to study pond water and wetland mud, and some prepared slides with focus on the inhabitants and their role in food chains and webs of the wetland. This was carried out.

6. Examine the human role at Beggar's Tick: past history, relevant politics, laws, and efforts of the various state and local agencies, neighbors, school groups, and others to positively impact the wetlands. This was done except for the politics.

Field experience goals accomplished (Jan 1997-Oct 1997):

1. Three major field trips to Beggar's Tick and 14 mini-trips in my car.
2. Removal of invasive plants: blackberry, canary grass and scotch broom.
3. Planting of indigenous flora in the refuge: 10 slough sedge bushes, and 5 trees, plus some cattail. (Plant select by Metro.)
4. Placed 5 student-made wood duck and 5 songbird nest boxes and on trees, and one Canadian goose nest, anchored in the wetland to float.
5. Several observation studies were carried out by the students for occupancy. It was difficult to see or access the nests after winter flooding. One wood duck nest was confirmed occupied and cleaned out, one vandalized. The goose nest appeared to have been occupied and then abandoned.
6. Students in both the Adopt a Wetlands class and Fowl Weather Friends rehabilitated, weatherized and released ducks between Jan. and Oct. '97. Fourteen orphan wild mallards were released at a local wetland park, and two adults.
7. Pollution studies to include water testing and trash removal were carried out, especially the latter. Hazmat was contacted twice for removal of a drum of unknown material, plus a bag of oily looking unknown substance.
8. First hand experience with studying the complexity of the inter-relationships of plants, animals, and inorganic elements in the Beggar's Tick environment.

The intended instructional goals did result in greatly enhancing the students' understanding of the value of wetlands and their inhabitants. The students also meet and learn from members of the Dept. of Fish and Wildlife, Audubon Wildlife Care Center, the City of Portland Environmental Services, and participants in the Forestry Stewardship Project, and Friends of Beggar's Tick. These people have first hand experience with working in Beggar's Tick, the Johnson Creek watershed, and/or problems related to habitat destruction.

Also the students learned to appreciate the complexity of the inter-relationships of the

wetland flora and fauna, and the positive and negative human impact on the refuge. The sixth graders took pride in their contribution to the positive impact on Beggar's Tick.

The above learning was important because of the ever-present wetland habitat destruction caused by the increasing population in the Portland area and the local problems with flooding, pollution, and vandalism. The students gained first hand experience in field work and applied science which is valuable in and of itself, but they also gained life-long understanding of environmental problems. They are now part of the educated public who can be advocates for the positive impact of humans on wetlands. The students gained pride, a sense of empowerment and the self-esteem that goes with feeling they did actually do something about environmental problems.

B. How will the goals be accomplished? What methods and criteria will be used for measuring the projects effectiveness and success?

A "mini-class" exploratory was added into the curriculum in Jan. of '97. These classes lasted 9 weeks. Before the project was ended, three sessions had occurred which meant that more sixth graders could participate than anticipated with a semester long class. One student was so enthusiastic she took the class twice (receiving individualized enriched curriculum.) The students met daily from 8:00 to 8:45. They received teacher and guest speaker instruction, and labs, nest and model building experience that accomplished most of the classroom goals. The field experience goals were modified due to less funds available for field trips. I added in 15 "mini-trips" that involved taking students in my car and returning in time for the activity bus after school. A letter grade was assigned to the students at the end of the grading periods based the quality and completeness of portfolios, journals, field notes, participation, quality of nest building, and the ability to identify the animals and plants studied, and their roles in the environment. Success was also be measured by the occupancy rate of the nests erected. Eighth grade participants in the Binnsmead Forestry Stewardship Project participated in tree plants efforts in the refuge during our last major field trip in Oct. '97. Parents did participate in the three full-class field trips.

Effectiveness was enhanced by the positive public attention and communication that was generated by Channel 6 coverage of the Oct. field trip, six Binnsmead newsletters. Ultimately it would be ideal if this interaction could help cut down on vandalism at Beggar's Tick. There is no way to evaluate that effectively.

C. How is the project transferable to other educators and what are the long-term benefits of the project?

The Adopt a Wetlands coordinator, Marian Wanamaker, organized a presentation of our project at an Open House at Marshall High School held for all our feeder schools. Community companies and stores that helped us had their names placed on a banner displayed at the Open House. Newsletters and one-on-one communication was carried out. Approximately 70 Binnsmead sixth grade students, 10 eighth graders and 1 Tualatin High student were exposed to the wetland experiences. Adult volunteers

also shared the experiences. The Fowl Weather Friends project is on-going into 1998 and a Fred Meyer Memorial Trust grant was just received to rebuild our cages. The number of birds rehabbed during the time of this grant was 15.

The bulk of the supplies purchased for the project will continue being a resource for years to come. The long-range benefits to the refuge include increased growth of indigenous plants, increased eradication of invasive plants, increased and/or maintained habitation of the refuge by birds such as wood ducks, geese and song birds.

The effort to increase student awareness of the importance of wetlands is on-going with the use of my wetlands curriculum lessons in my regular sixth grade Life Science classes. Many of the new lesson ideas developed for the Adopt a Wetlands class are incorporated into the regular curriculum I teach and has been shared and adopted by some other science teachers.

One of my science classes I have had all year was also my Adopt a Wetlands class at the beginning of this school year. Those students will build ten more song bird next boxes before mid-June '98 and the nests will be given to Metro

B. QUALIFICATIONS of KEY STAFF AND VOLUNTEERS USED

Marian Wanamaker: Secondary teacher for 20 and 1/2 years in Life Science/Biology subject area for the past 11 years. Five of the years involved emphasis on environmental science and the last three with an emphasis animal behavior and wetlands, taught as exemplary complex ecosystem; taught the three sessions of "Adopt a Wetlands".

Bob Salanger: Current Director of the Audubon Wildlife Care Center; previously in charge of animal rehab at the Center. He presented twice to our classes and brought a peregrine falcon both times.

Lynn Wilson: Currently Restoration and Education Grants Coordinator of Metro Greenspaces; previously with David Douglas School District and coordinator of several projects at Beggar's Tick. Mr. Wilson is willing to help in the classroom and can provide class materials.

Lynn Vandercamp: Lynn's expertise is with the Johnson Creek Watershed and she presented to all three classes with materials including maps, models, and photos of the area.

Dale Vasnik: Ecologist who has had extensive experience working at Beggar's Tick. Mr. Vasnik coordinated with me on the Oct. '97 field trip, bringing plants, personnel, and extra tools.

Friends of Trees said they couldn't help us; Dick Pugh filled that gap.

Gerry Nichols and Thea Tarbet: Eighth grade science teachers at Binnsmead and involved in Forestry Stewardship Project at Binnsmead. Ms. Tarbet supplied the 8th graders to participate in our last field trip.

Joe Pesek: Head of Dept. of Fish and Wildlife at Clackamus office. Mr. Pesek provided copies of designs for bat, wood duck, goose, owl, and small bird nests and houses. He also provided additional information for successful occupancy. He was not able to supply cedar precut wood for wood duck houses. He also initiated the idea of observation data collection and will receive it.

Dick Pugh: Biology teacher at Cleveland High who has spearheaded projects at Oaks Bottom for years. He was available for plant seedling resources and general advise.

Tualatin Wetlands Conservancy: Provided materials for use in the classroom on wetlands and restoration.

C. BUDGET: REVISED AFTER EXPENSES

Category/Item	Request of Metro	Matching Funds	Matching In-Kind
Personnel	3 1/2 day substitutes @ \$65.per day=\$195.		M. Wanamaker: 26 hrs.@ \$35. + 19.14%; total \$910
Volunteer Labor			17trips=26hrs 119students @ \$5.50=\$1133. 8 adults @ \$5.50 for 19 hrs.= \$104.
Professional Services			Vet services for birds: 1 hrs.@\$100. = \$100
	bus transportation: 3 field trips @ \$125 = \$375		
Materials and Supplies	8 Audubon Bird Bks. \$9.@ = \$7.20 10 pairs of boots @\$11.= \$113.40 after discount	G.I.Joe's \$50 + 25% discount= \$50.25	
	15 pairs of gloves +1 pr. of wadders: \$86.14 after discount	Discount: \$24.70	5 donated=\$22.45
	2 long-handled cutters @\$29.= \$58	Fred Meyers w/ 10% discount: \$5.80	2 donated=\$58
	5 hand cutters @\$7. = \$35.	\$3.50	2 donated=\$14
	1 Box of 20 face masks @\$18.26		donated by Metro: approx. 5 sacks of top soil @\$7.95= \$36.75

Budget (cont.)

Category/Item	Request of Metro	Matching Funds	Matching In-Kind
		25% disc. from Montavilla Lumber Co. \$32.60 disc.	
	Wood For: 20 small bird houses wood cost=\$90.43 after discount		
	5 wood duck boxes \$79.56 w/disc.	disc:\$22.39	
	1 goose nest: metal pan, \$25.	Foster Feed 10% discount \$2.50	wood and chain donated \$20 value
			poultry food \$.75x3 = \$2.25 donated
	2 Bushnell Birder 8x40 binoculars @\$60.= \$120.	10% discount from Audubon Society store= \$12.	
	Spotting Scope: Bush- nell Spacemaster @\$215,+ 15-45x zoom lens @\$120+ Bausch & Lomb tri- pod @ \$85. = total of \$420.	10% disc. = \$56.70 for all	
	3 Audubon bird I.D.books- \$9.@= \$18.	\$1.80	

Rental fees

Weed Whacker
\$20 value donated
by principal.
Use of truck:
Loaned by teacher,
rental value \$50. x2
= \$100.
Use of teacher
car: 15x\$10=\$150.
Use of canoe: 5hr.=
\$50.

Budget (cont.)

Category/Item	Request of Metro	Matching Funds	Matching In-Kind
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Indirect/Overhead

Costs: -
 Contingency: -
 Other:-

TOTAL	\$1390.99	\$262.24	\$2720.45
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Other: -Unexpected, out of pocket:	\$3.98	film
	6.00	caulk/chips
	15.95	poultry food
	36.80	"Birds" coloring book
	19.00	color copies of birds
	17.98	film development
	5.50	poultry food
	4.70	film development
	.99	nails
	3.79	camera batteries
	<u>\$114.69</u>	Total