Grand Lake Meadows
A Provincially Significant Wetland
TEACHER KIT
Grade 9-12
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To the Teacher

Welcome to the Grand Lake Meadows Wetland Education Program for Grade 9-12. In this binder you will find paper copies of information contained on the accompanying CD. You will be able to use this binder to guide your class through the activities we have developed for this program. The CD contains all of the activity sheets so you are able to print and photocopy multiple copies for your students. We have also included information CD that will be useful in teaching your students about wetland areas in the Grand Lake region. The slide presentation can be shown to your students on a laptop/LCD projector system.

This program was developed through the Grand Lake Meadows Project Management Committee representing various non-government and government organizations concerned with wetland conservation in the area. For further information regarding this education program or wetland conservation issues in Grand Lake please contact:

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**EVALUATION FORM**

Please take a moment to fill in this evaluation form  
Thank You

Return to: Todd Byers NBDNRE, Fish and Wildlife Branch, P.O. Box 6000,  
Fredericton, N.B. E3B 5H1. Fax: 453-6699

Teacher: ____________________________________________

School and grade level: ____________________________________________________________

Did you use the kit to deliver the program or did an instructor come to the school?  
______________________________________________________________________________

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**Your Comments**  
(Include anything you would like to see added to this program)
Introduction and Learning Concepts:

The New Brunswick Science Curriculum identifies that "owing to a change in environmental attitudes, today's students are much more aware of the fragile nature of the environment". However, attitudes towards wetlands have often not changed as quickly as other environmental attitudes. For example, many students are aware of concerns pertaining to water quality issues but do not realize how valuable wetlands are in maintaining water quality. The Grand Lake Meadows wetland education program for Grade 9-12 students will foster an understanding of wetland values within your students. The applicability of local information will also be valuable within your classroom as students will be able to relate to environmental events on a local level.

Specifically this program can be linked to teaching sustainability of ecosystems and ecosystem issues. The approach with this age group is to provide students with biological information that gives them the background to understand the important functions and values of Grand Lake Meadows. Students at this age also thrive on debate and this approach is used to illustrate the many issues that surround wetland conservation and demonstrate that often we tend to forget about how closely we are connected to these natural places until they are threatened.
Wetlands are one of the most biodiverse habitats in the world, second only to rain forests in the number of species they support.

Wetlands are one of our most threatened ecosystems and conservation is critical to sustaining the health of our planet.

In New Brunswick we have lost over 50% of our freshwater wetlands and 65% of our salt marshes that were here prior to early European settlement.

Grand Lake Meadows has been designated a "Provincially Significant Wetland" by the New Brunswick government. This designation highlights the fact that Grand Lake Meadows is one of the most important pieces of freshwater wetland we have in the Province.
Wetlands are simply defined as "an area that is covered by water for all or part of the year".

Wetlands are also characterized by "hydric" soils which are soils that are continuously saturated with water. Wetlands are also characterized by aquatic plants that can tolerate continuously saturated conditions. Plants such as water lilies, cattails and willow and other wet ground species all indicate the presence of a wetland.
Grand Lake Meadows has been designated a Provincially Significant Wetland because it is the largest freshwater wetland complex in the Province making it one of the most important pieces of wildlife habitat we have. It is also one of the largest freshwater wetlands in the Maritimes.

The area is 3000 ha (7413 ac) in size. To put that into visual terms 3000 ha means that 5,674 football fields would fit into an area that size.
The area extends from McGowans Corner in the west and Fulton Island in the north, east to Jemseg an south to where the Jemseg and St. John rivers join.

The new bridge and piece of highway that crossed through the Meadows is highlighted by the pink dashed line.

Grand Lake is the largest in NB (18,135 ha; 44,810 ac) and because of its size acts as a heat sink that has a moderating influence on the climate of the region. The lake absorbs and stores heat in the summer and releases it in the fall. Consequently this region has one of the longest frost free periods in NB and some of the hottest summer temperatures.
Within the Meadows are a variety of wetland types

Shrub wetlands are the most common accounting for half of the wetland area in the complex. Shrub wetlands are dominated by shrubby vegetation such as sweet gale.

Permanently flooded emergent marsh accounts for 24% of wetland habitat at the site and is dominated by soft stemmed wetland plants such as sedges and buckbean.

Floodplain forest is also significant in the area (20%). This type of forest is fairly unique to NB. These areas are dominated by mature deciduous hardwoods such as silver maple, American elm and ash.

Grand Lake Meadows also contains seasonally flooded wetlands and numerous oxbows, sloughs and bogs that provide open water habitat.
Grand Lake Meadows has a number of important values and functions.

Natural values of the site include wildlife habitat and habitat for rare species.

The area also has historical significance. The Jemseg archaeological site is one of the most important archaeological finds in New Brunswick providing artifacts over 2000 years old. Traditionally the area has been used for subsistence purposes. First Nations camped in the area to hunt, fish and gather medicinal and food plants. European settlers also used the wetlands of Grand Lake to obtain food and fur for trade. Recreational opportunities for fishing, hunting and trapping are still an important value of the site.
One of the most important functions of Grand Lake Meadows is minimizing flood damage during the spring freshet. Most of the soils in Grand Lake Meadows are peat soils that act as a sponge soaking up excess flood water. The enormous size of this wetland complex combined with the water absorbing properties of the soils hold much of the excess spring flood water and release it slowly as the river recedes.

This sponge capability of wetland soils also helps improve water quality in the St. John River. As the water sits on top of wetland areas alluvial silts in the river deposit out of the water onto the wetland areas. In fact this silt deposition actually helps maintain high productivity in freshwater emergent marshes in the area. Wetland plants are also efficient at removing excess nutrients from water such as nitrates from agricultural run off. Thus wetland areas are important in maintaining water quality.
One of the most important values of Grand Lake Meadows is the wildlife habitat it provides throughout the year.

In the Spring, breeding waterfowl use the seasonal wetlands. The first species to arrive in the area include the black duck and common goldeneye. Canada Geese also use the site as a stopover during migration. These area provide important invertebrate foods for breeding hens that need protein and calcium for egg laying. Amphibians such as spring peepers also use these seasonal areas.

Moose use shrubby hummocks close to the water to birth their calves. These hummocks provide safe birthing areas since predators such as coyote cannot travel to these sites.

The area also provides important spring spawning habitat for a number of fish species including perch, alewife and chain pickerel.
Grand Lake Meadows provides excellent breeding habitat for birds, amphibians, reptiles and mammals. Breeding waterfowl such as the wood duck are common. Other breeding waterfowl species in the area include ring-necked ducks, blue-winged teal, black ducks, mallards and common goldeneye.

Other marsh birds such as snipe nest in the area. Osprey nest in large snag trees are on artificial platforms and feed in open water areas. The amount of open water habitat in the area provides breeding sites for common loons. Species such as the belted kingfisher are found nesting in the floodplain forest area. There are also numerous songbirds nesting in floodplain forest habitat such as tree swallows and flycatchers. Owls and a number of hawk species such as the northern harrier are found in the region. Many amphibians such as bullfrogs and green frogs are found in permanent marsh areas. Several amphibian and reptile species such as the pickerel frog use pools in the floodplain forest.

There are numerous furbearers and small mammal species in the area ranging from little brown bat to coyote.
In the fall Grand Lake Meadows provides extremely important staging habitat for migrating waterfowl. Large numbers of scaup, ring-necked ducks, goldeneye and black ducks use the area to feed and rest during migration.

Moose feed on aquatic plants in late summer and early fall to provide them with important nutrients to build up fat reserves for the winter.

Furbearers such as raccoons, mink, muskrat, fox and coyote can be found in the area since there is abundant food available for these species in summer and fall.

Porcupines are common throughout the floodplain forest region at this time of the year and are often found feeding on bark of hardwood trees.
Grand Lake Meadows provides valuable wintering habitat for resident wildlife. The muskrat uses freshwater emergent marsh to build huts and store food for the winter.

The floodplain forest provides wintering habitat in the form of shelter and food to large mammals such as the moose and coyote.

Resident hawk and owl species such as the rough-legged hawk and great-horned owl will forage on small mammals such as snowshoe hare and deer mice.
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Grand Lake Meadows contains several rare species. The area supports a number of rare plants such as the buttonbush. Ash Swamp is the only known location in NB where false nettle can still be found.

The area is also significant for the number of rare species it supports. One of the most notable inhabitants is the Yellow Rail - Grand Lake Meadows supports the largest concentrations of yellow rail found in NB to date and is only one of a handful of sites where this species can be found in the Maritimes. The yellow rail is a shy secretive bird that is seldom seen but can be easily recognized by it's distinctive call that sounds like two small pebbles clicking together.
From a natural perspective you have seen how the Meadows change over the seasons. These natural changes are also reflected in the cultural values of the site. In examining the cultural features of the area it soon becomes clear that Grand Lake Meadows was extremely important for subsistence. First Nation communities (Wolastoq'kew - People of the beautiful river) in the region gathered at locations around Grand Lake to fish, hunt and gather plants.

The first English trading post on the St. John River was established at the mouth of the Jemseg River in 1659. This trading post became the site of Fort Jemseg in 1667. Early French settlers abandoned the area in 1702 when the war between England and France was resumed. French Acadians returned to Maugerville in 1718 followed by English settlers in the late 1700's. Early use of the site for subsistence focused on the fur trade, agriculture later became important and agricultural land in this region is still prized for its fertility.

Fiddleheads are still an important spring food source. Gaspereau swim up the river in the Spring to spawning sites in the marshes and provide an important spring fishery.
Fishing of other species such as chain pickerel and eel has been a traditional activity in the region throughout the summer.

Black ash was once abundant throughout the floodplain forest and is still present today. This tree species was used by First Nations for their basket making industry. Ash was pounded into thin strips and woven into baskets.

Early records from Fort Jemseg identify egging as an important food source in the spring and summer. Waterfowl eggs, particularly Canada geese were collected by soldiers. Canada geese were also collected during their summer molt period when they were unable to fly.

Today the area provides important summer recreational opportunities for canoeists, kayakers, boaters, fishermen and birdwatchers.
One of the most important cultural activities occurring in the region during the fall is hunting. Both First Nations communities and European settlers depended on the fall hunt to provide much of their winter meat.

Waterfowl and moose were the primary focus of the fall hunt. Other species hunted in the region included deer and small game birds such as grouse.
One of the most important activities occurring in this region in the 1700's was the fur trade. Prior to agriculture the primary industry of the area was the fur market. Many people derived their living from this occupation. Furs were traded for goods and also brought direct economic benefits to the area. One of the most abundant furbearers trapped in the area was the muskrat. Other abundant species in old trapping records include, otter, mink, fox, bobcat and fisher.

Ice fishing for smelt, perch, and pickerel provided a winter food source. Ice fishing is still extremely popular in the region and Grand Lake provides some of the best ice-fishing opportunities in NB.
Although Grand Lake Meadows is important, unfortunately like all wetlands it is continuously threatened. One of the most controversial threats was the new highway and the construction of a new bridge and section of highway through Grand Lake Meadows. Concerns were based on environmental reasons such as habitat loss, siltation of fish habitat and impact on rare species. Substantial concerns were also raised about the impacts on the historical importance of the site, particularly the Jemseg archeological area.

Other threats include heavy boat traffic, forest harvest ATV use in marsh areas, agricultural development and recreational development (cottages).
A variety of organizations have been working together to ensure that Grand Lake Meadows is conserved. Much of the area has been purchased and secured under the Eastern Habitat Joint Venture. The Eastern Habitat Joint Venture is comprised of non-government and government organizations including NBDNRE, the Canadian Wildlife Service, Ducks Unlimited Canada, Wildlife Habitat Canada and the Nature Conservancy of Canada working together to further wetland conservation efforts in NB. Ducks Unlimited has a number of managed marshes in the area that provide permanent brood-rearing habitat for waterfowl. Ducks Unlimited also has a nest box program that provides alternate nesting habitat for wood ducks, common goldeneye and hooded merganser. The Province of NB has adopted a Wetlands Policy that will afford greater protective measures to wetlands.

Grand Lake Meadows is important to all of us and therefore we should all be concerned with wetland conservation in this region. From birdwatching to duck hunting the Meadows is a unique area where we can all enjoy interacting with nature.
Background:
This session provides Grade 9-12 students with information that will enable them to:

- Understand the influence of individual and group actions on the environment and comprehend how groups can work together to balance interests.
- Understand cultural perspectives related to Grand Lake Meadows.
- Understand the importance of exercising the rights of citizenship in conservation.

Preparation (30 min):
Show your students the Grand Lake Meadows slide presentation to provide them with information they need to make informed decisions. Also provide them with copies of newspaper articles contained in this binder. Explain that Grand Lake Meadows was a hot new topic because of the controversy surrounding the installation of the new section of highway through Grand Lake Meadows. A variety of different organizations had various viewpoints in support of the new road or against it based on their attitudes to the area. It is important to realize that the Provincial Government and the wetland managers associated with the Province had to address these issues and try to balance the environmental concerns with the need for a new safe highway.

Activity (30 min or longer):
Split your students into 6 user groups and provide each group with one of the group profile sheets. Explain that tonight there will be a public meeting in Gagetown and in attendance will be an environmental consultant hired by MRDC (Muskkrat Road Development Company) which is the company hired by the Province to build a new highway. This consultant has been asked to prepare a report for the company and the Provincial Government that outlines concerns regarding the road construction on Grand Lake Meadows.
He has also been asked to provide recommendations to address these concerns.

Each student group will then have 15 minutes to prepare their argument for or against the new road. Provide your students with a copy of the "Discussion Notes Sheet" that will aid them in developing their arguments.

Each group will assign a spokesperson to represent the individual mentioned on their card that will present their stakeholder concerns in a time frame of two minutes. The "environmental consultant" (teacher) will write the key issues on one side of a flip chart. As a group the class will be asked to provide some possible solutions to concerns.

Wrap-Up and Homework:
The instructor will tell the students that obviously from the preceding discussion we all have a connection to wetlands. Some of us may feel wetlands are not important but as this debate illustrates, wetlands have a variety of functions that are not recognized as being important until they become threatened. Concerns about wetland loss are significant in New Brunswick (reiterate wetland loss statistics). However, in the interest of economics and safety we also have a need for an updated highway. It is important that development is balanced with wetland conservation. Although, sometimes we cannot avoid habitat loss we do have mechanisms to offset this loss that may ultimately benefit wetland conservation. It is important that the public become involved in these issues. We all have a responsibility to become wetland "stewards" to ensure the future of areas such as Grand Lake Meadows. Ask the students to develop a brief report for the Province based on the preceding discussion.

Extensions:
- Locate the watershed in which your school is located. What land uses are in the watershed? Are there any conflicts of uses, needs and wants?
- Prepare a species account for a wetland species that inhabits Grand Lake Meadows. Describe the life history, population data, and uses by humans.
Two native campfires that may have burned long before Europeans ever set foot on these shores have brought construction of a segment of New Brunswick's new four-lane highway to a screeching halt.

A team of archaeologists is now working in Grand Lake Meadows where the Maritime Road Development Corporation was in the process of building a bridge over the St. John River.

The construction crews were preparing the ground for the bridge's foundation when the company's on-site archeological monitor spotted an unusual colour in the silt.

"I'm quite amazed. Darcy Digham has an incredible eye," says Sharon Pond, spokesperson for the corporation. "That brown smudge turned out to be a fire-pit.

All construction stopped immediately and the area was cordoned off.

That was Oct. 23 and the crew hasn't been able to get back to work since.

Over the next couple of days, archeologists found what they call a living floor.

"That's the level of ground that people would live on," says Colin Varley, the archeologist who has been contracted to manage the excavation. "It's recognizable because it's slightly darker-coloured soil because of the charcoal and the regular debris of living.

"Most of what we're getting is stone-flakes which are the residue of making and sharpening tools. We've got a fair amount of pottery so far, which seems to indicate a minimum of three pots, maybe more.

Ironically, Dr. Varley believes the site used to be part of an ancient Maliseet highway - a resting place on a seasonal route where natives would come to fish, hunt water-fowl or harvest medicinal plants.

"It's not surprising to find this at all," he says. "The St. John River is a major, major river that would have served as a transportation highway. There are sites like these all over in these alluvial soils.

Dr. Varley thinks one hearth dates back 2,000 years and that the other hearth may be even older. But the team will be doing some carbon-dating to get a more accurate picture of how old things are.

Nobody can say for sure when highway construction can start again.

Now that the cold weather is here and the ground is starting to freeze, the digging is becoming more difficult.

But the archeologists may get around the cold by setting up a tent and bringing in a source of heat.

Ms. Pond says the corporation agreed in its contract that it would stop work should a site of historical significance...
be found. She says the company was prepared for such a discovery and she believes it will still be able to meet its deadlines.

"It's always difficult for us when we have to alter our work schedule. The project is on a very tight and ambitious schedule," says Ms. Pond. "But with some long hours and hard work, we can hopefully catch up. This isn't a major concern.

This is not the first time that highway construction in New Brunswick have intruded on historical native grounds.

In April of 1997, the Trans-Canada had to be re-routed over the Jemseg River - 250 metres to the south of its proposed point of crossing - because the area was suspected to be the site of an ancient burial ground.

See DIG, A2 DIG Continued from A1 The Jemseg site had been known to contain fragments of an ancient Maliseet civilization. Because of this, an archaeological dig took place as part of an Environmental Impact Assessment before highway construction could proceed.

Given only 10 months to finish their assessment - and hampered by poor relations with native people who felt they were not kept informed - archaeologists worked through the winter, using tents with insulated linings and covering the ground with straw to prevent frost from setting in.

In the end, red ochre - which has been found in other native burial grounds - was found at the bottom of the pit. The moment that happened, archaeologists stopped all work and notified everybody involved including chiefs, elders, politicians and officials.

Twelve days later the highway was re-routed. Since then, the Jemseg archaeological site has remained untouched and any artifacts found remain the property of Archaeological Services.
Environment will be safeguarded: consortium

DAVID STONEHOUSE
Telegraph Journal

Fredericton - The private consortium building the controversial toll highway between Moncton and Fredericton says it will spend several million dollars on environmental safeguards.

And $600,000 - half of it contributed by the government - will go directly to softening some of the blow to the Grand Lake Meadows, an internationally-known environmentally sensitive marsh area the highway goes right through.

The cash will be controlled by a committee that will include environmentalists and scholars and is to be funnelled to offset the "social or cultural impacts to the meadows."

"Really it is for enhancement of the wetland in some form," Environment Department official Linton Carr said when reached at his home last night.

He was reluctant to speculate what the money could be used for, but possibilities could include wetland awareness campaigns or an interpretive centre.

The route through the marsh is one of the most controversial aspects for environmentalists of the new 195-kilometre stretch from Fredericton to Moncton.

The government told bidders for the project it would match whatever money they would put up to cushion the some of destruction of 55 hectares the highway will go over. Maritime Road Development Corp. promised $300,000.

The Transportation Department also pledged, as part of the environmental approval for the highway, to buy up 360 hectares of wetland to compensate for the loss, Mr. Carr said.

To build the highway, fill five metres deep will have to cross the meadows to prevent the highway from flooding over in spring.

Environmental studies done for government showed the highway would not affect the water levels elsewhere in the marsh. But it will obviously cut a swath through wildlife habitat.

Amid the thousands of pages about the highway project released by the government yesterday were details of some of the private's consortium's plans and commitments to the environment.

Much of the plans were insisted on by the government. And the person who will oversee the $877-million project said he has never seen anything like it.

"It is probably the most unique document I have seen in my entire career," Maritime Road Development Corp. project manager Robert Nairn said in an interview yesterday.

"Now we are obviously going to follow it diligently, same thing with the quality management plan. Both of those
plans, in my opinion, far exceed any other project in North America.

The consortium’s environmental manager says the plans will include follow up after the highway is long finished.

"We've budgeted several million dollars for the whole environmental project," Bob Hodgins said. "That includes everything from staff in the field to monitoring afterward.

The consortium has guaranteed a replacement water supply for homeowners along the new route. And it promises compensation to any harm to fisheries.

But officials don't expect fish habitat to suffer significant damage with the controls they are drawing up to prevent contamination or destruction.

"We don't anticipate any significant effect because we are going to time the construction at the period in their lifecycle - in the summer - when they're not in that area," Mr. Hodgins said from his office near Toronto. He moves to Fredericton next week to oversee the environmental safeguards for the four years of construction.

"We are designing the structures so it will allow for fish passage. This has all been worked out with the Department of Fisheries and Oceans," Mr. Hodgins said. "And we will have extensive erosion and sediment control plans in place so that we don't get sediment into the streams," he said.

"So all of these things are specifically being done to protect the fishery. So we don't anticipate - and certainly the province hasn't anticipated - a significant impact on any fishery.

"In particular, the salmon are the ones we are going to be especially diligent [about] in trying to put these measures in place.

The plans include safeguards to prevent springs and rivers from being contaminated - and the builders say they don't expect fisheries to be affected.

"The Fisheries Act requires that proponents compensate for loss of critical fish habitat," one plan filed as part of the contract says.

"The stream crossings will be developed following the principle of no-net loss of fish habitat and therefore agreements under the Fisheries Act are not expected to be the required.

"The Environmental Protection Act restricts the discharge of deleterious substances that may impact fish habitat," it says. "Contingency plans will be developed... should accidental discharge inadvertently occur.

The consortium also promises to test 40 sites where the highway crosses water as part of its fish monitoring plans.

"Each site will be monitored at least once per year starting in 1998 for at least 10 years past construction."

Illustration(s):

Project manager Robert Nairn says the environment plans exceed those for any project in North America.

Category: News
Length: Medium, 639 words

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The Daily Gleaner
The Fredericton Daily Gleaner

Highway session draws crowd

Ascah, Adrienne

The information session at the Jemseg Lions Club Tuesday night had hardly begun, but there were already close to 100 people.

Residents of the Jemseg area came to hear more about the Fredericton-Moncton Highway project. Representatives from Maritime Road Development Corporation were on hand to answer questions and explain the diagrams of the new highway.

Sharon Pond, director of communications for the corporation, was happy with the turnout. But she wasn't surprised.

"It isn't unusual for people in rural communities to show greater interest in what's going on in their community than you sometimes see in the city."

In the past few weeks, Pond and her colleagues have gone to the Village of Gagetown and New Maryland. During the summer, the corporation held information sessions in Moncton, Oromocto and Fredericton.

Many residents said they are looking forward to the new highway. Ian Varty, who lives in Cambridge Narrows, said the stretch of the Trans-Canada Highway he uses to travel to Fredericton leaves a lot to be desired.

"I've been here for six years, travelling into Fredericton, and I've had plenty of close calls with bad drivers. I guess the thought of a divided highway is pretty appealing to me."

Although Varty is looking forward to a smoother ride on the new highway, he said progress comes with a price.

"You lose a little bit of marshland and whatnot, but that's the way it pretty much has to be, I think."

Bob Burdett, acting environmental manager for the highway project, said the corporation takes environmental concerns seriously. An extensive study was conducted before building began and precautions will take place every step of the way, he said.

Environmental protection is particularly important in the Jemseg area because of the Grand Lake Meadows, Burdett said. The meadows are an internationally recognized wetland area with rare plants.

The meadows are unique to the area, not seen in many places in the rest of Atlantic Canada and New England, he said.

"The wetlands are quite special. Then we come along and say we're going to put a highway through it."

Burdett said the planning was a long and extensive process, but when it was decided the highway would be routed through the wetlands, it presented a challenge.

One concern was the flow of water and soil. They're building an embankment out of rock to allow the free movement of water and putting "flow equalization culverts" through the embankments so water can drain...
evenly, he said.

Small animals can also use the culverts, so their movement won't be restricted, Burdett added.

During construction in the Grand Lake Meadows, machinery will re-fuel in two designated areas. These re-fueling stations are concrete pads with sumps to take care of any spills.

There will also be a high fence to contain the movement of the water when the spring floods come. That way, it will keep sediment coming off the construction from spreading into the meadows, he said.

The University of Moncton is helping the corporation monitor the impacts the construction may have on vegetation.

Category: News
Length: Medium, 420 words

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Doc. : news-19981111-FG-009
Ms. Gail Sweet represents the Marsh Monitors a local environmental organization concerned with the impacts of the highway on the wetlands of Grand Lake. They are particularly concerned with the effects on rare species in the area and believe that when it comes to wetlands it is important to maintain the "no net loss" principle. They have been counting the number of a small rare bird the Yellow Rail. Grand Lake Meadows is one of only a handful of locations in NB where this species is found.

The Marsh Monitors are extremely worried about the continuing decline of wetlands in New Brunswick. This Province has lost over 50% of its freshwater wetlands that were here prior to early European settlement. They also know that wetland conservation does not only benefit wildlife. Wetlands provide a number of important functions to humans including flood control and water quality improvement.
Mr. Mann represents the Roads R’ Us Trucking association that is dedicated to improving safety on NB highways. They have evidence indicating a high number of traffic accidents on the single lane highway from Jemseg to Fredericton due to the number of sharp turns in the road. Their organization feels that the loss of wetland habitat is far outweighed by the number of lives saved with a safer 4-lane highway.

Their members earn their living by traveling New Brunswick highways. Poorly maintained roads contribute to increased vehicle repair costs. The shorter more direct route across New Brunswick also lowers their fuel costs. This more direct route also shortens their travel time which allows them to work more efficiently and earn more income.
LOCAL GOVERNMENT

Spokesperson: Mr. Douglas Gilbert

Mr. Gilbert is a local Town Councilor in Gagetown and feels the new highway construction will be an economic boon to his region. Local contractors have been guaranteed work on the highway construction and a number of jobs will be created for the region. All of the employees working on the highway in the area will be staying at bed and breakfast establishments in Gagetown. He also feels that a modern highway in New Brunswick will increase tourist traffic to the Province.

Local government is concerned with maintaining the vitality of their community. They strive to ensure that the population is maintained or increased and that there are sufficient employment opportunities in the area for young people. They are also interested in economic development within their community and the establishment of new businesses or expansion of existing businesses is one way to achieve this.
Spokesperson: Mr. Gage Grimross

Mr. Grimross represents the local historical society that has concerns about the impact of the road on archaeological artifacts and the historical integrity of the area. They would prefer that all artifacts be preserved before the new road is constructed even though this could substantially delay the road construction. Jemseg was the site of first European trading post on the St. John River. Fort Jemseg was also established at this site.

The Historical Association is also concerned with continual development on the historical integrity of the entire area. Although they recognize a need for progress they are concerned about the continual loss of historical buildings and sites before sufficient research has been done on these locations to preserve all of the historical information they provide.
Ms. Kat Kwapit' represents the local First Nations community. Elders within the community believe that the proposed road route will cross over an ancient burial site. The elders are adamant that this site not be disturbed. There is also a concern that ancient artifacts will be destroyed during the road construction process.

The Wolastoq'kew community is concerned about the continual loss of aboriginal history in this region. Many of the elders have passed away before their stories have been told. The Jemseg Archeological site will provide insight on how First Nations peoples have used the Grand Lake region.
DISCUSSION NOTES SHEET
ROAD RAGE

Who does your group represent?


Is your group in support of or against the construction of a new segment of four lane highway through Grand Lake Meadows?


List at least two reasons why your group has this opinion


Write some key points to defend your opinions


