



Western Washington University
Western CEDAR

Salish Sea Ecosystem Conference

2014 Salish Sea Ecosystem Conference
(Seattle, Wash.)

May 1st, 10:30 AM - 12:00 PM

Skagit Stream Team/Storm Team Program: A Citizen Science Success Story

Kristi Carpenter

Skagit County Conservation District (Wash.), kristi@skagitcd.org

Susan Wood

Padilla Bay National Estuarine Reserach Reserve

Follow this and additional works at: <https://cedar.wwu.edu/ssec>



Part of the [Terrestrial and Aquatic Ecology Commons](#)

Carpenter, Kristi and Wood, Susan, "Skagit Stream Team/Storm Team Program: A Citizen Science Success Story" (2014). *Salish Sea Ecosystem Conference*. 170.

<https://cedar.wwu.edu/ssec/2014ssec/Day2/170>

This Event is brought to you for free and open access by the Conferences and Events at Western CEDAR. It has been accepted for inclusion in Salish Sea Ecosystem Conference by an authorized administrator of Western CEDAR. For more information, please contact westerncedar@wwu.edu.

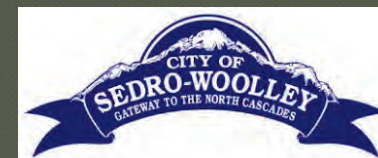
SKAGIT STREAM TEAM/STORM TEAM PROGRAM



Presented by:
Kristi Carpenter, Skagit Conservation District &
Susan Wood, Padilla Bay National Estuarine Research Reserve

Sponsored by:

Skagit Conservation District and
Padilla Bay National Estuarine Research Reserve
in partnership with the
City of Mount Vernon, City of Burlington,
City of Sedro-Woolley, City of Anacortes,
and Skagit County



Guiding Principles...

“A community of watershed enhancement involves everyone - from volunteers to local and state officials, to landowners...”



- ◎ **Watershed education**
- ◎ **Voluntary Stewardship**
- ◎ **Shared partnerships**
- ◎ **Cooperation**



By learning and playing an active role,
residents are more likely to take an
active role in conservation

What is the Goal of the Skagit Stream Team Program?

To document in an accurate and meaningful manner the water quality (WQ) in Skagit County's priority watersheds.



Program Objectives

1. To inspire community stewardship by educating local citizens about the connection between land use and water quality



2. To implement a routine sampling program that can :

- assess water quality trends
- characterize the existing water quality of priority freshwater drainages
- determine if violations of the Washington State Water Quality Standards are occurring in the study area

Chapter 173-201A
Washington
Administrative Code
(WAC)

Water Quality Standards
for Surface Waters of
the State of
Washington



3. To identify “hot spots”
and document
improvements in water
quality as a result of the
implementation of Best
Management Practices



4. To teach community volunteers:

- sampling and analytical techniques used by environmental professionals
- data management techniques
- the importance of establishing a long-term water quality monitoring program.



Volunteers are our partners –

working together to improve our future.



How does the Skagit Stream Team Program work?



Annual Training

- Held at the Padilla Bay Research Reserve — classroom, field and lab
- Field methods reviewed in field at sampling locations
- Lab procedures reviewed at first sampling event.

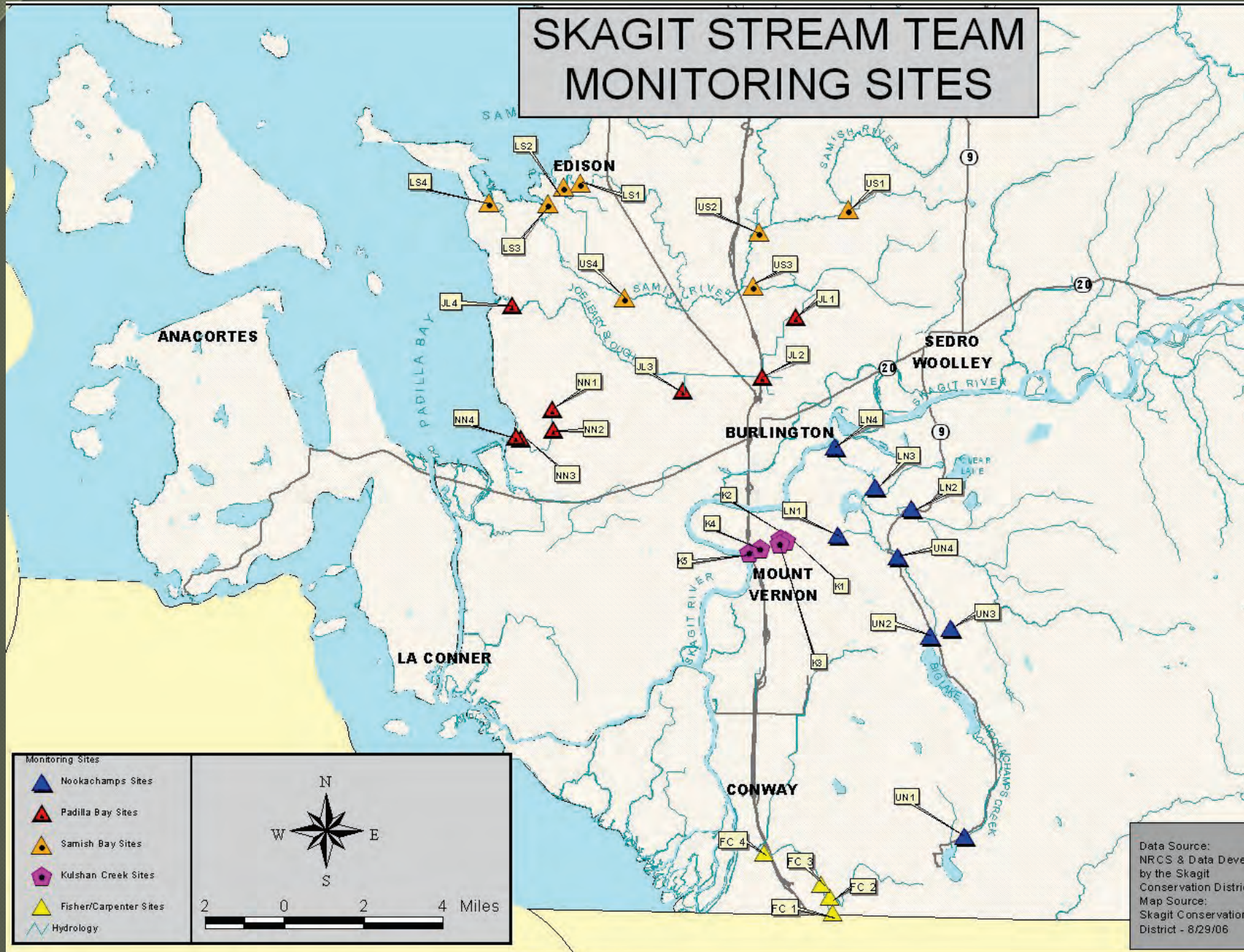








Volunteers receive:

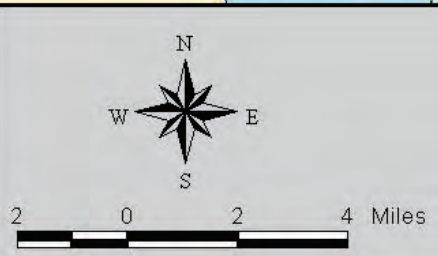
- Training
- Equipment & Supplies
- Handbook
- Monitoring schedule
- L & I coverage while conducting volunteer work.



SKAGIT STREAM TEAM MONITORING SITES



- Monitoring Sites**
-  Nookachamps Sites
 -  Padilla Bay Sites
 -  Samish Bay Sites
 -  Kulshan Creek Sites
 -  Fisher/Carpenter Sites
 -  Hydrology



Data Source:
NRCS & Data Developed by the Skagit Conservation District
Map Source:
Skagit Conservation District - 8/29/06

Each team collects samples at 4 – 5 stations on a monthly basis



Date: _____

Field Work By: _____

Lab Work By: _____

Dupe Site _____
 FC Results _____

Lower Sanish Watershed Skagit Stream Team Water Quality Monitoring

Site L51. Old Hwy. 99 Sanish Bridge	Time of Sample	Total Depth	Water Temp	Turbidity
Water Appearance <input type="checkbox"/> Scum/Film <input type="checkbox"/> Foam <input type="checkbox"/> Muddy Brown <input type="checkbox"/> Milky <input type="checkbox"/> Clear <input type="checkbox"/> Oily Sheen <input type="checkbox"/> Brown <input type="checkbox"/> Other _____		ft	°C	NTU's
Field Biological/Unusual Observations:	D.O. saturation	D.O.		Fecal Coliform
	%	mg/L		FC = FC ml. 100 ml.
	Lab metalists			Fecal Coliform
				FC = FC ml. 100 ml.

Site L51. Sanish River @ Jelly Road	Time of Sample	Total Depth	Water Temp	Turbidity
Water Appearance <input type="checkbox"/> Scum/Film <input type="checkbox"/> Foam <input type="checkbox"/> Muddy Brown <input type="checkbox"/> Milky <input type="checkbox"/> Clear <input type="checkbox"/> Oily Sheen <input type="checkbox"/> Brown <input type="checkbox"/> Other _____		ft	°C	NTU's
Field Biological/Unusual Observations:	D.O. saturation	D.O.		Fecal Coliform
	%	mg/L		FC = FC ml. 100 ml.
	Lab metalists			Fecal Coliform
				FC = FC ml. 100 ml.

Site L51. Sanish River @ Chickasaw Drive Bridge	Time of Sample	Total Depth	Water Temp	Turbidity
Water Appearance <input type="checkbox"/> Scum/Film <input type="checkbox"/> Foam <input type="checkbox"/> Muddy Brown <input type="checkbox"/> Milky <input type="checkbox"/> Clear <input type="checkbox"/> Oily Sheen <input type="checkbox"/> Brown <input type="checkbox"/> Other _____		ft	°C	NTU's
Field Biological/Unusual Observations:	D.O. saturation	D.O.		Fecal Coliform
	%	mg/L		FC = FC ml. 100 ml.
	Lab metalists			Fecal Coliform
				FC = FC ml. 100 ml.

Site L51. Sanish River @ Mouth (Boat Dock)	Time of Sample	Total Depth	Water Temp	Turbidity
Water Appearance <input type="checkbox"/> Scum/Film <input type="checkbox"/> Foam <input type="checkbox"/> Muddy Brown <input type="checkbox"/> Milky <input type="checkbox"/> Clear <input type="checkbox"/> Oily Sheen <input type="checkbox"/> Brown <input type="checkbox"/> Other _____		ft	°C	NTU's
Field Biological/Unusual Observations:	D.O. saturation	D.O.		Fecal Coliform
	%	mg/L		FC = FC ml. 100 ml.
	Lab metalists			Fecal Coliform
				FC = FC ml. 100 ml.

Additional notes or observations: _____

What parameters or conditions are monitored?

- ◎ **Turbidity**
- ◎ **Fecal Coliform Bacteria**
- ◎ **Dissolved Oxygen**
- ◎ **Temperature**

“Field Mice” & “Lab Rats”



Annual Celebration in June!

*Recognition
Entertainment!
Music!
Great Food!
Great Company!*



Storm Team

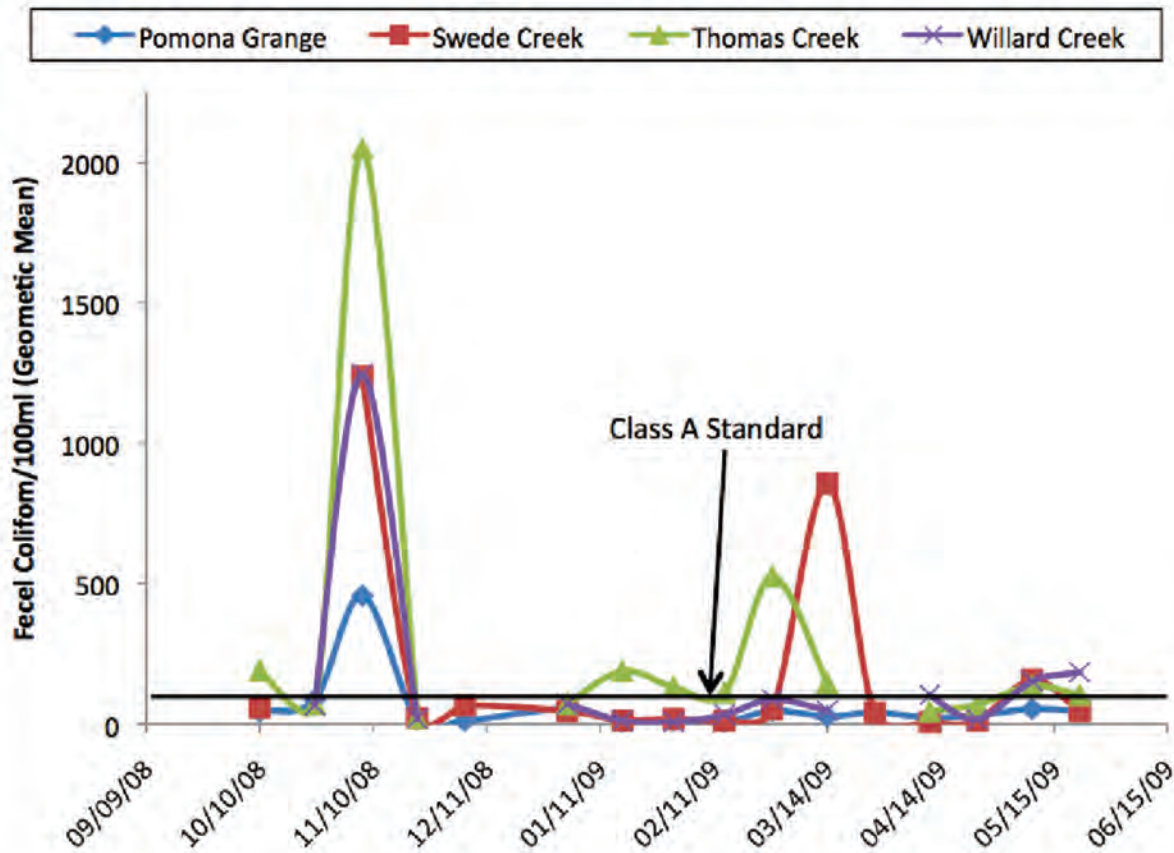
It was a dark and stormy night, in September 2008. Three volunteers went out to sample. . .



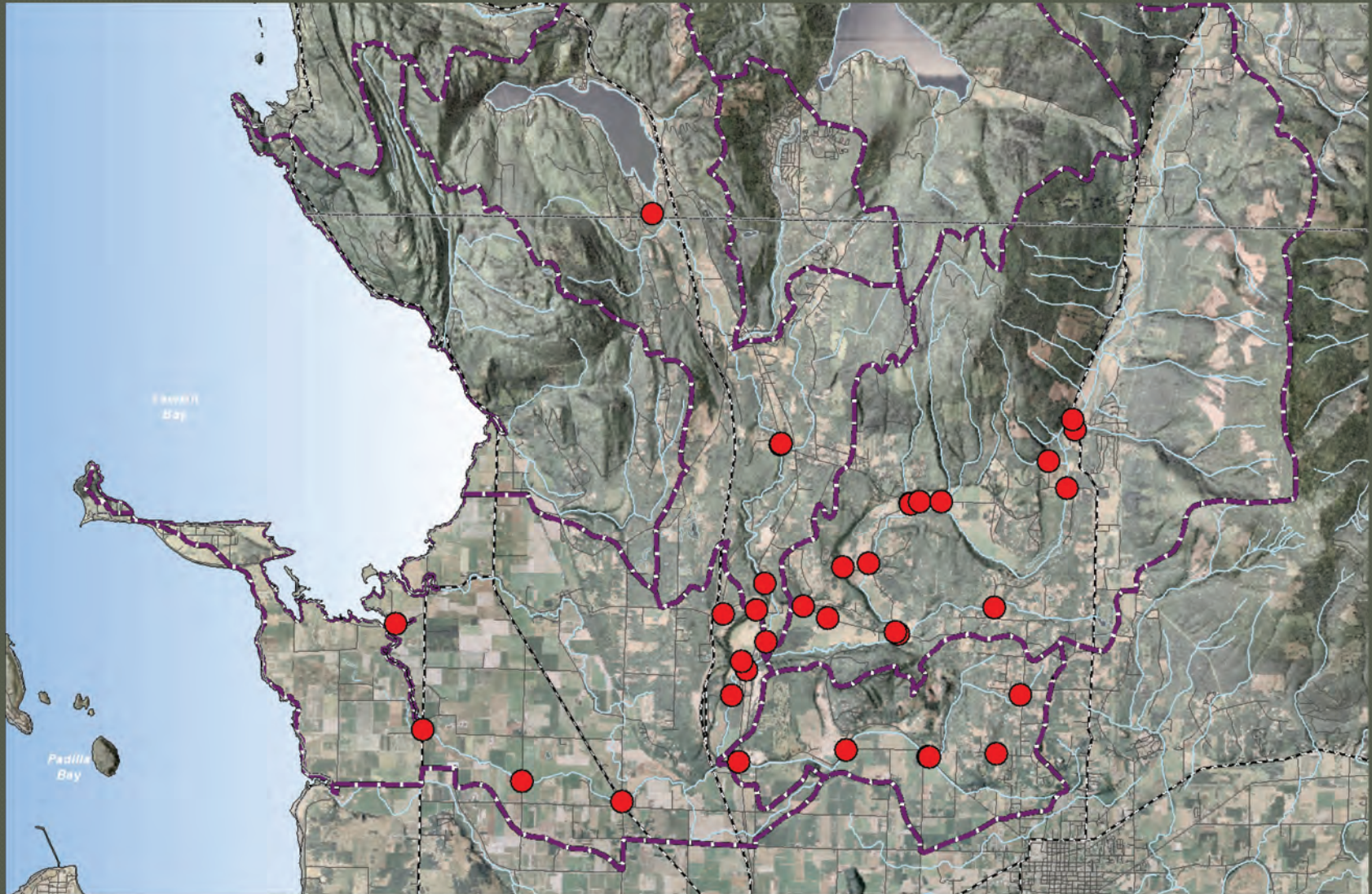
. . .and they found. . .

Very High Fecal Coliform Numbers

Upper Samish



Samish Storm Team Stations



Samish Bay Shellfish Growing Area



2008-2010 – Samish River and tributaries
2010-2012 - Bay View Drainage, No Name
Slough/Padilla Bay
2012-2014 – Lower Samish Drainage





2012-2013

Skagit Stream Team Annual Water Quality Report

*Citizen Monitoring Summary for the Samish Bay, Padilla Bay,
Clyde Creek, Gages Slough, Trumpeter Basin, Kulshan Creek,
Nookachamps Creek and Fisher Creek Watersheds*



Annual Skagit Stream Team/Storm Team Water Quality Report



Skagit Conservation District
2021 E. College Way, Suite #203
Mount Vernon, WA 98273
(360) 428-4313



Padilla Bay NERR
10441 Bayview Edlson Road
Mount Vernon, WA 98273
(360) 428-1558



**Thank you for helping
keep Samish Bay clean.**



“Water is the most critical resource issue of our lifetime and our children’s lifetime. The health of our water is the principle measure of how we live on the land.” – Luna Leopold