Wireless Communication for Hatchery Alarm and Monitoring Systems
Setting up a wireless network

- Things we need to know:
  - What are you trying to monitor?
  - Discrete or analog data?
  - How do you want to use the data?
  - Is wireless suitable for the location?
SIMPLE DISCRETE WIRELESS SETUP

MASTER / GATEWAY
RADIO

SLAVE / NODE
RADIO

LIGHT BULB

FLOAT SWITCH
SIMPLE ANALOG WIRELESS SETUP

MASTER / GATEWAY RADIO

46"

PANEL DISPLAY

SLAVE / NODE RADIO

46"

PRESSURE TRANSMITTER
ANALOG DIFFERENTIAL WIRELESS SETUP

MASTER / GATEWAY RADIO

SLAVE / NODE RADIO

46" - 39" = 7"

PANEL DISPLAY

PRESSURE TRANSMITTER

INTAKE SCREEN

46"

39"
Banner Engineering carries the DX80 series of radios that come as a matched pair, making it easy to setup a remote monitoring system.

Several different discrete and analog models are offered.

Range up to 3 miles line of sight, more with high gain antennas.

Sight survey is recommended.
24VDC POWERED WIRELESS SETUP

- GATEWAY
- NODE
- 24VDC POWER SUPPLY
- SIREN
- ALARM PANEL, PLC OR PC
- PHONE DIALER
- SENSOR
BATTERY POWERED WIRELESS SETUP

24VDC POWER SUPPLY

GATEWAY

REMOTE NODE

BATTERY MODULE

SENSOR

DX80G9M6S6P6

DX80N9X6S6P6

DX81

24VDC

POWER

SUPPLY

ALARM PANEL,
PLC OR PC

PHONE DIALER

SIREN
Hagerman National Fish Hatchery
Annunciation System
Wireless Network Monitor Points

- **Len Lewis Spring**
  - Water Level
  - Screen Running
  - Screen Overload

- **Middle Deck**
  - Upper End DO Level
  - Lower End DO Level
  - O2 Pump Running
  - O2 Pump Overload

- **Bottom Deck**
  - Lower End DO Level

- **Spring 13**
  - Water Level

- **Mixing Tank**
  - Water Level
  - DO Level

- **Re-Use System**
  - Tank #1 DO Level
  - Tank #2 DO Level
  - Tank #3 DO Level
  - Power Monitor
  - Alarm System
HAGERMAN NATIONAL FISH HATCHERY
ANNUNCIATION SYSTEM WIRELESS NETWORK

NODE #1 LEN LEWIS SPRING

NODE #2 MIDDLE DECK

GATEWAY MODBUS / TCP MASTER

NODE #3 BOTTOM DECK

NODE #4 SPRING #13

NODE #5 MIXING TANK

NODE #6 RE-USE SYSTEM

STAR NETWORK

Up to 16 nodes, more with extended addressing
Hagerman Hatchery
Bottom Deck DO Monitor
Hagerman Hatchery Re-use Alarm System Monitor
IRRIGON FISH HATCHERY
ANNUNCIATION PLAN

29 DISCRETE WIRED POINTS
2 ANALOG WIRED POINTS
91 DISCRETE WIRELESS POINTS
27 ANALOG WIRELESS POINTS
Irrigon Hatchery
Remote DO Monitor
Questions

Ohio State National Champions

Yummy !!!